

IN THE
ALASKAN WILDERNESS
George Byron Gordon

you
102



THE LIBRARY
OF
THE UNIVERSITY
OF CALIFORNIA
LOS ANGELES



Lieutenant Mac Laren Gordon

In the Alaskan Wilderness

By
GEORGE BYRON GORDON
Sc.D., F.R.G.S.



PHILADELPHIA
THE JOHN C. WINSTON COMPANY
1917

Copyright, 1917,
BY GEORGE B. GORDON

909

R 6552

TO MY BROTHER
LIEUTENANT MACLAREN GORDON
KILLED IN ACTION DURING
THE BATTLE OF THE SOMME
OCTOBER 21, 1916

1510834

CONTENTS

	PAGE
PREFACE	9
INTRODUCTION	13
CHAPTER	
I. A MEETING ON THE YUKON	21
II. THE LOWER KANTISHNA	35
III. A DESERTED TOWN	46
IV. THE KINGDOM OF DENALI	63
V. NIGGERHEAD AND MUSKEG	83
VI. ON THE UPPER KUSKOKWIM	95
VII. THE VILLAGE LIFE	109
VIII. THE LAMENT OF THE NATIVE.	132
IX. SHAKING HANDS WITH THE WILLOWS	143
X. ADRIFT ON BERING SEA	155
APPENDIX	
A. CANOE CONSTRUCTION	167
TABLE OF DISTANCES	172
B. THE POPULATION OF NORTHERN ALASKA.	186
C. THE LANGUAGE OF THE KUSKWOGA- MIUT	236

LIST OF ILLUSTRATIONS

LIEUTENANT MACLAREN GORDON	<i>Frontispiece</i>
	PAGE
SOLITUDE. A SCENE ON THE KANTISHNA RIVER ABOUT 10 P. M.	21
THE SAME SCENE AT 10.30 P. M. THE SUN HAS COME OUT FROM BEHIND A CLOUD	28
THE KANTISHNA BELOW THE FORK	35
GETTING LUNCH ON THE KANTISHNA RIVER	37
DENALI FROM THE NORTH. AFTER A SKETCH BY THE AUTHOR FROM A POINT JUST BE- LOW THE FORK	44
SCENE ON THE UPPER KANTISHNA.	46
SCENE ON THE UPPER KANTISHNA.	46
OUR CAMP AT LAKE MINCHUMINA.	51
SCENE AT LAKE MINCHUMINA LOOKING NORTHWEST FROM OUR CAMPING PLACE	53
VIEW LOOKING SOUTH FROM LAKE MIN- CHUMINA	60
DENALI AS SEEN FROM OUR CAMP AT LAKE MINCHUMINA. AFTER A SKETCH BY THE AUTHOR.	62
MACLAREN GORDON AT LAKE MINCHUMINA	69
THE AUTHOR ON THE TEN MILE PORTAGE	76
THE END OF THE TEN MILE PORTAGE	85

THE UPPER KUSKOKWIM OR TICHININIK AT THE PORTAGE	92
THE DESERTED CABIN ON THE TICHININIK .	99
IN THE DESERTED CABIN ON THE TICHININIK	101
A WOMAN OF THE SIKMIUT	108
THE BELLE OF THE SIKMIUT	110
THE SUB-CHIEF OF THE SIKMIUT	113
THE SON OF THE SUB-CHIEF OF THE SIKMIUT	115
THE DAUGHTER OF THE SUB-CHIEF OF THE SIKMIUT.	117
A MAN OF THE SIKMIUT. A MIXED ESKIMO AND INDIAN TYPE	119
ON THE LOWER KUSKOKWIM	122
A KUSKWOGAMIUT MAN, SHOWING LABRETS AND EARRINGS.	124
AN OLD BURIAL PLACE OF THE KUSKWOGA- MIUT	126
TWO KUSKWOGAMIUT GRAVES.	131
ANOTHER FORM OF KUSKWOGAMIUT GRAVE	133
A LONE GRAVE ON THE TUNDRA	135
THE TEN COMMANDMENTS IN PICTURE-WRIT- ING.	137
ENTRANCE TO THE KOZGEE AT OGOVIK . .	138
TWO KUSKWOGAMIUT HUNTERS IN THEIR KYAKS	140
THE AUTHOR ON THE LOWER KUSKOKWIM .	142
CANOE CONSTRUCTION	167

	PAGE
CANOE CONSTRUCTION	170
A TINNEH INDIAN WITH SPEAR	195
BIRCHBARK BABY-CARRIER	197
IMAGE USED BY THE MINKHOTANA	199
TWO VIEWS OF A BIRCHBARK VESSEL MADE BY A SIKMIUT	202
A WOODEN VESSEL MADE IN TWO PIECES .	204
A WOODEN VESSEL MADE IN A SINGLE PIECE	204
A WOODEN VESSEL MADE IN A SINGLE PIECE	206
A WOMAN'S COAT MADE OF DUCK SKINS . .	211
A MAN'S COAT MADE OF SKINS OF GEESE. .	213
A MAN'S DECORATED BOOTS	215
A PAIR OF WOMAN'S BOOTS	215
A PAIR OF GRASS SOCKS	218
A WOMAN'S HEADDRESS	220
A GROUP OF KUSKWOGAMIUT BASKETRY . .	222
KALTHKAPOK (BIG RAVEN). THE GREAT AXE USED IN THE KOZGEE	227
AN ANCIENT INSCRIPTION IN PICTURE-WRIT- ING	246
SKETCH MAP MADE UNDER THE DIRECTION OF CHIEF HENRY AT TANANA FOR THE AUTHOR IN 1905.	<i>back cover</i>
MAP OF ALASKA SHOWING THE ROUTE .	<i>back cover</i>
MAP OF CENTRAL ALASKA SHOWING THE KANTISHNA AND THE REGION ABOUT LAKE MINCHUMINA	<i>back cover</i>

PREFACE

This book is the result of a journey into unknown parts of Alaska made in 1907 by my brother, MacLaren Gordon, and myself together. On my part the trip was undertaken in the interest of the University Museum in Philadelphia, and on my brother's part by the grace of Providence and his own generous impulse. He was returning from a hunting trip when we met at White Horse. We united our forces and our expedition was at once complete and perfect in all respects and eminently fitted for the work in hand and for any work whatsoever. We made the journey without guides and without other assistance, which means that we traveled in the simplest and best way.

A word would seem to be in place here in reference to the appearance at this time of a book that might have seemed more timely ten years ago. The incidents related took place in 1907, but their interest, far from being diminished, has rather been enhanced in the interval.

It is remarkable that although the last decade has witnessed great activity in exploration in many parts of the world, and although Alaska

itself has been largely opened up, the heart of that Northern realm remains unknown and unexplored.

Our journey, a mere reconnaissance, was successful in attaining the objects intended. Of importance is the fact that it opened up a field for further work and brought into view larger tasks to be accomplished as its proper and natural sequel. Our time was too short to permit of the extensive and intensive studies that the subject demanded and that would have required unlimited time. It was not my good fortune to return to these tasks and they still remain to be done.

After my return in 1907 I put together my notes and observations and worked up the collections, but realizing the incompleteness of my materials and possessed by the thought of some day returning to the work, it was not my intention to publish the results of our brief reconnaissance until I should be able to combine with them the more complete observations for which they prepared the way. It is because the opportunity for making these more complete observations did not arrive that I feel justified in publishing this narrative, with its many imperfections, of which no one can be more aware than myself.

Although I have been unable to achieve the fruits of a prolonged and intimate acquaintance with the peoples whom we met with on our journey through the Alaskan wilderness, nothing can take away the satisfying memory of that journey; for every day was filled to the full with the things that make life good, and the recollection of those days carries with it memories that have power to soften even the loss of the brother with whose strong and inspiring personality and affectionate fellowship these memories are filled.

I wish I could have done the subject justice, for not only did the country appeal to us, but to my mind there never has been a time when the waste places of the earth possessed so great an interest for civilized man as today. To a world grown tired and sick and full of fear, there is rest and refreshment and healing power in the breath of the brooding wilderness and even the peace of the desert makes an unwonted appeal. The soil that was consecrated by the plow and that mothered mankind has been defiled, and till it has been made clean again the untilled lands that lie stark outside the tempest—the haunts of the wild beast—are more pleasant and more like home.

I want to record my thanks to all the friends through whose support my several journeys on behalf of the University Museum have been undertaken. Their names are written large in the history of local education as they are written large also in my esteem.

INTRODUCTION

Although Alaska has during recent years engaged much attention on the part of the United States Government, financiers, promoters and the public generally, there are, within its vast area, regions that remain unknown and unexplored. Ten years ago—in 1907—this assertion applied with greater force, especially to the interior parts, even than it does today. At that time, as today, the region lying west of the Tanana and between the Alaskan range and the Yukon was the most extensive of the unexplored sections. Shut off as it is by the great barrier of the mountains, and lying across the heart of Alaska, this region is, on account of its physical condition, not easy of access. To this situation must be attributed the fact that it is still in large part an unknown and uninhabited wilderness.*

* Mr. H. M. Eakin, of the United States Geological Survey, himself an Alaskan Explorer, writing in 1916, says of the region which I am describing, "Part of the region serves as hunting ground for natives of both Tanana and Kuskokwim tribes, but there are large areas that apparently are seldom if ever visited by either natives or whites." BULLETIN 642-H of the United States Geological Survey. Washington, Government Printing Office, 1916.

It is impossible to exaggerate the importance of Alaska in the future of the United States and of the world. Its known resources, only recently discovered and lying virgin still, are small compared to the stores of wealth that further exploration and discovery will bring to light. It is indeed a very rich and unimagined storehouse, containing in great abundance many of the raw materials on which the industrial life of the world depends.

In these days of destruction, we are entitled to take some comfort in the thought that, in lands lying remote from the sounds of strife, there are stores upon which future generations may draw at will to repair the waste. When mankind shall have been delivered and the earth redeemed, the happier peoples to whom the inheritance will belong, will find hope and encouragement still, as men have always done, in the hidden places and the regions where man's dominion has not been known. In the general work of reconstruction and in rebuilding the highways of civilization, the great Alaskan wilderness will contribute largely to the materials that will be required. When the search for gold has become a memory, the iron, the coal, the copper and the oil will continue to feed the fur-

naces and supply the wants of the industrial world.

The purpose of the journey described in these pages was not an ambitious one. It was nothing more than a reconnaissance of certain districts to determine the opportunities and conditions for an extended study of the native life of those districts. In the main part of the regions traversed the almost entire absence of native life was a disconcerting circumstance that did not promise well for the ultimate ends in view. The central basin, drained by two great river systems, consists of timber land and swamps flanked by hills and mountain ranges, with abundance of game but almost without human inhabitants. Never at any time has the population of that district been very numerous in comparison with its size and resources, and during the last half century it has dwindled until there is hardly even a remnant left. I do not pretend to give all the results of our journey in these pages; although only a reconnaissance, it was successful in obtaining extensive collections of everything that the natives produce.

We found on the lower Kuskokwim a rich opportunity for the observation of an aboriginal population who preserve their ancient customs

and whose conduct of life is highly interesting and instructive. It is time that these customs were made the subject of close and detailed record, for it will soon be too late. Many changes have certainly taken place since our visit. The native of Alaska is very susceptible to new influences, and in the presence of the trader and other white neighbors he dies away or else his entire scheme of life breaks down, leaving him, where he survives, with only a corrupt and fragmentary tradition of his own. In such a condition he is unable to make any very trustworthy contribution to our knowledge of primitive life. The search for such knowledge is our chief reason for invoking his help and the only reasonable excuse for intruding upon him. I recommend the subject to anyone who has a taste for ethnological study and who is willing to spend two years on the tundra. I can assure him of a rich return for his trouble in the kindly human interest that attaches to the picturesque and primitive life on the Kuskokwim. That region is much more accessible now than it was in 1907, for since that time settlements have been established on the lower Kuskokwim and there is now, I believe, steamboat communication on that river. The best way, therefore, of reaching the native

villages is to start from St. Michael at the mouth of the Yukon and either cross the "Yukon portage" or, still more easily, await a small steamer that now sometimes passes over the great flats that exclude larger vessels from the Kuskokwim, and that make all navigation give that part of the Alaskan coast a wide berth.

Observations that we made during our journey, upon the geography of the country, its physical features, its resources and its few Indian inhabitants, have been given to the public only in brief fragments. In the course of time similar and more thorough observations will be made by others with more time at their command. Maps will be prepared, routes will be surveyed and reports will be written, but in some respects the experiences of the explorers to whom this work may be assigned will not be the same as ours. I venture, therefore, to entertain the thought that this narrative may not be entirely without value as an Alaskan document, although it makes no claim at all other than to be an accurate record of personal adventure and individual effort.

Prior to our trip in 1907, one expedition had penetrated into the central Alaskan wilderness and reached Lake Minchumina. It was a govern-

ment expedition sent out by the War Department under Lieutenant Joseph H. Herron in 1899. Lieutenant Herron, with five companions, entered the territory from the south through a low divide in the Alaskan range. His route lay roughly from south to north and terminated on the Yukon, at the mouth of the Tanana. We proceeded from the Tanana River by way of the Kantishna River and our route, lying roughly east and west, crossed Herron's at right angles. Herron's report, which was published by the War Department in 1901, contains a map of his route. On that map Lake Minchumina, the point at which our trails crossed, appears for the first time. The Kantishna is not mentioned in Herron's report, and although he stated the fact that the lake drains into the Tanana, his statement, together with his map, shows that Herron made no claims to personal knowledge of the stream that flows from the lake, and his sketch of the lake itself, which he crossed in winter on snowshoes and with dog sleds, is a rough outline. All the maps of the region published since 1901 are based on Lieutenant Herron's map, of which we were ignorant in 1907 when we made our journey.

The map of the Kantishna region that accom-

panies this volume is based entirely on our own observations, but we had no instruments for surveying and the map professes only to show roughly the contour of the lake and its drainage. It is, nevertheless, although ten years old, the first map to be published based on personal knowledge.

The Kuskokwim River was known on its lower course to the Russians as far as the mouth of the Tacotna. In 1898 it was surveyed from its South Fork (the Istna) by J. E. Spurr and W. S. Post of the United States Geological Survey, who started from Cook Inlet and ascended the Skwentna and crossed over to the Istna. The North Fork of the Kuskokwim, which the Indians call the Tichininik, was not known to white men prior to our journey, except to one or two wandering trappers of whose presence at certain points we saw signs.

Thus our route lay for the most part through country either entirely unknown and unexplored or rarely visited. We were the first to travel across Alaska from the Tanana to Bering Sea by this route.

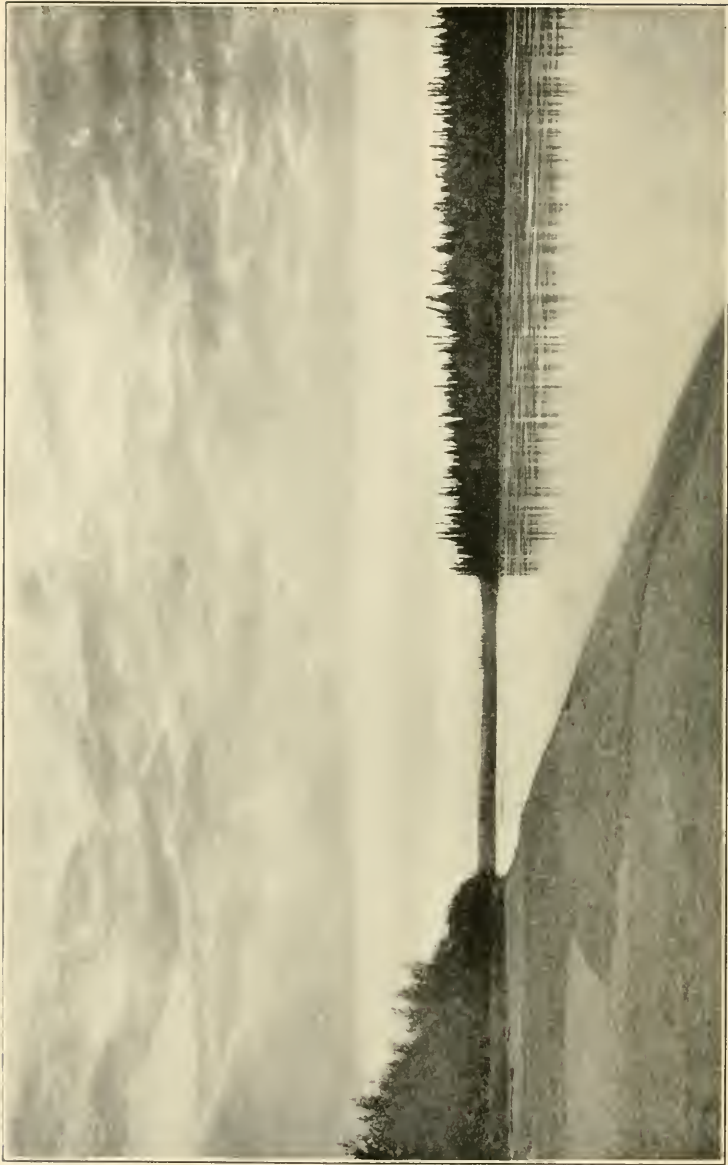
Writing of his journey within the boundaries of the same wide region, Lieutenant Herron sums up his experiences in a sentence that shows how

even a well organized government expedition may meet with difficulties in Alaska.

“This report represents the earnest efforts of a small party in unknown regions against extraordinary obstacles, deserted by guides, caught by winter, deprived of transportation and hampered by scarcity of food.”*

If I have sought to be explicit in the foregoing statement it is not because I have a personal interest in establishing any priority or in claiming any credit whatever in connection with exploration and discovery in Alaska or elsewhere. In such claims we were in no way interested, and for this reason we had next to nothing to say on the subject. I am well aware that the work of exploration is going forward year by year under the direction of hardy and competent men. I have, therefore, been careful to indicate the precise nature of our work which had no geographical purpose whatever and which had reference only to the inhabitants.

* EXPLORATIONS IN ALASKA, 1899, War Department, Washington, Government Printing Office, 1901.



SOLITUDE, A SCENE ON THE KANTISHNA ABOUT 10 P. M.

IN THE ALASKAN WILDERNESS

CHAPTER I

A MEETING ON THE YUKON

In June of 1907, the ice broke on the Yukon and carried out, according to programme, its irresistible spring drive to the sea, leaving that river free to navigation for the two thousand five hundred miles of its length. The little fleet of steamers waiting at White Horse, the head of navigation, prepared, each in turn, to make its first trip of the season down to Dawson, the far-famed city of the Great Northwest. My brother and I had taken passage on the first boat and on an early June morning we swung out from the pier at the bright and busy little town of White Horse that rules the destinies of the Canadian Yukon.

To make the Yukon trip is an easy matter. From Vancouver the ocean going steamers ply the wonderful inside passage northward for three days and nights, a thousand miles to Skagway, the terminus of the White Pass Railroad which runs one hundred miles through very striking

mountain scenery to White Horse, the head of navigation on the great Yukon. From White Horse a flat-bottomed stern-wheel steamer runs down to Dawson in forty-eight hours. At Dawson another steamer of the same type takes up the passenger and descends the river to St. Michael on the shores of Bering Sea.

People who have not made the Yukon trip are unaware of what a very impressive stream it is and few are familiar with the romance and tragedy of its history. That history may be said to have begun within the last quarter of a century and the names of Harper and Henderson and Carmac and Skookum Jim the Indian and his cousin, Tagish Charlie, are at the beginnings of tradition and their deeds are passing into mythology. It was in the eighties and nineties that these stout Trojans, perhaps half a score all told, led apparently by some vision or by the voice of some desire, singly or in pairs, broke into the Unknown and found—The Klondike.

It is not my purpose to tell the history of the Yukon; that task has been well done by men who saw it all and who took part in it. I have just read one of these authentic records of adventure,* a book that will take its place in history

* EARLY DAYS ON THE YUKON by William Ogilvie.

and literature with the narrative of Raleigh, the letters of Cortez and the log books of Captain Cook.

During those two June days on the steamer between White Horse and Dawson my brother and I had time, as we watched the wild and picturesque shores go by, to recall to our minds all the tragedy and romance of the days that are gone forever, and we had time also to map out an adventure of our own, which was to cross Alaska by an untried route.

Two years before, we had visited the Tanana River and interviewed sourdoughs, hunters, trappers, government officials, Indians, half-breeds, missionaries, Rt. Rev. Innocent Pustinsky, Bishop of the Russian Church of Alaska, and, in short, everyone we met, for information about the same route which at that time first attracted us. Except for one old Indian, no one knew anything about it and all advised against the attempt.*

Chief Henry of the Tanana Indians, however, gave us some information by the aid of the Rev. Mr. Jules Prevost, the missionary at Fort Gibbon,

* Judge James Wickersham was then at Fairbanks, where I met him and learned from him that he had, the summer before, gone some distance up the Kantishna in a steamer chartered for the purpose. His purpose was to climb Mount Denali. He struck across an unknown country, reached the base of the mountain, but was unable to make the ascent.

who acted as interpreter. Chief Henry drew on a piece of birchbark, and I copied, a map of the Kantishna River and of Lake Minchumina. It was thus that I learned that the Kantishna River, which empties into the Tanana fifty miles above its confluence with the Yukon, has its source in Lake Minchumina, that the Kuskokwim could be reached from that lake and that the Kuskokwim itself was "good water." Chief Henry's map was afterwards our guide in making the journey of 1907.

The latest government map at that time indicated Lake Minchumina, and a dotted line showed the supposed position of a river flowing from the lake eastward into the Tanana, the great tributary of the Yukon which drains the country to the south in the eastern part of the territory of Alaska. Another river called the Kuskokwim, with its source somewhere near the lake, flowed in the opposite direction clear across the map and entered Bering Sea about 400 miles from the mouth of the Yukon, the only Alaskan river that exceeds it in size. The mouth of the Kantishna was well known in 1905 to hunters, traders and prospectors and to others who traveled on the Tanana, into which it poured in a considerable torrent.

The plan that first occurred to us in 1905 was to reach Lake Minchumina by way of the unexplored Kantishna, make our way across the divide to the headwaters of the Kuskokwim and descend that river to Bering Sea. After reaching the sea, we proposed to steer our canoe along the coast for 400 miles to St. Michael at the mouth of the Yukon. The whole summer would be short enough for the journey, and as it was then autumn at the time of which I am writing, we gave up the trip reluctantly and turned elsewhere. It was two years later, in the spring of 1907, as I have said, that I found an opportunity of escaping from the city and from civilization and was drawn again towards the North.

Arriving on the Tanana in June, 1907, we found that some changes had taken place in the condition of geographical knowledge since our visit in 1905. Someone had reported the existence of gold on the lower Kantishna and there had been a small stampede the year before; a town had been built—it was named Roosevelt, and then it was discovered that no gold existed, and before winter the town was deserted, its population was scattered over the continent and complete solitude again reigned on the banks of the Kantishna from its source to its confluence with the Tanana.

When we arrived at Fairbanks on the Tanana we heard rumors that someone had ascended the Kantishna to the lake in a poling boat, but we could never confirm this rumor. We found several men who knew the river as far up as the short-lived town called Roosevelt; above that point we could get no information about it except what I had learned from Chief Henry at the Mission at the mouth of the Tanana in 1905.*

On the nineteenth of June we began to build our canoe. At Fairbanks there was a store belonging to the Northern Commercial Company and a small sawmill, and these two establishments made our task much simpler than it would otherwise have been. Without them we would have built our canoe, but it would have taken us longer and perhaps it would not have been quite so good a job. From the store we procured the

* It has been stated on good authority that Frank Densmore, a prospector, made his way from the Tanana to the Kuskokwim in 1889 and returned to the Tanana. In a letter that I have received from George Otis Smith, the Director of the U. S. Geological Survey, he states that Densmore's route is not known. Others have stated that he went up by the Coschaket. In that case he would most likely have struck what is called the North Fork of the Kuskokwim somewhere to the north of Lake Minchumina. Whether he saw that lake is not known. From some accounts it would appear as if it was the South Fork of the Kuskokwim (the Istna) that Densmore reached in his journey of which there is no authentic record.

necessary tools, a piece of stout canvas and the nails. The sawmill reduced our work by cutting out roughly certain parts of the framework and the boards, but these had to be shaped and fitted together, and all of this we did with a pair of chopping axes, a handsaw, a plane, a hammer, an auger and a drawknife—all the tools that are necessary for building a canoe or a brigantine.

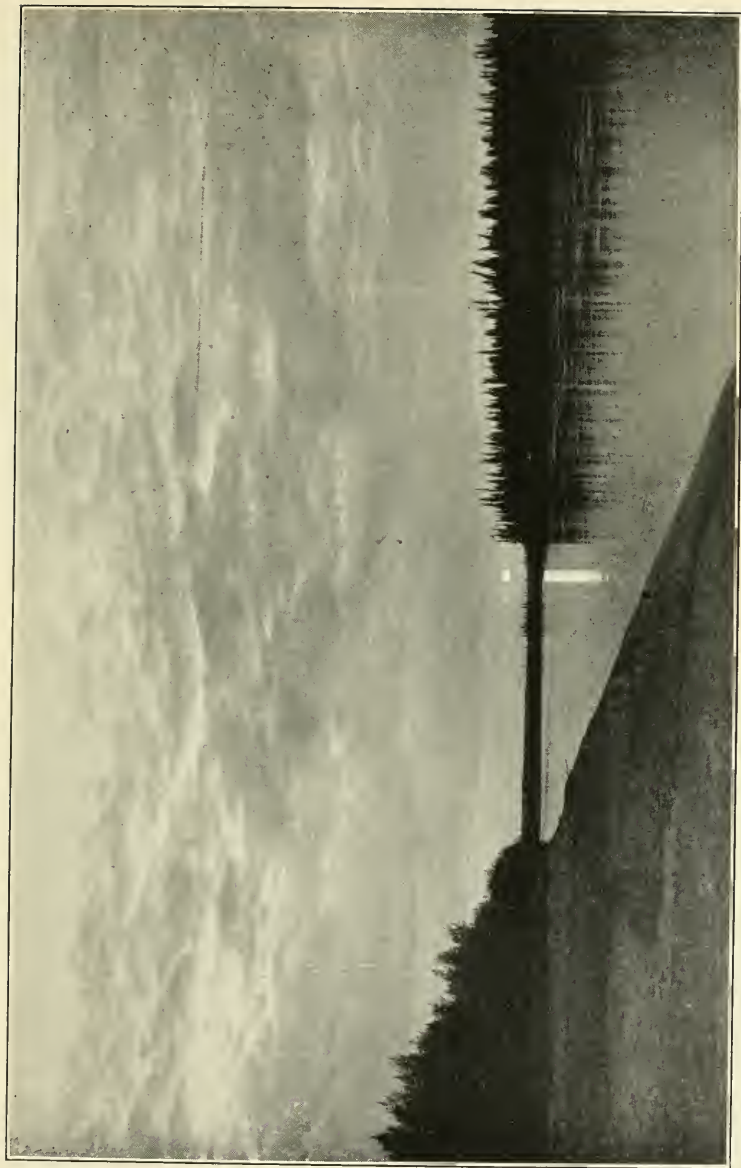
On the 26th of June the canoe was launched and we laid in our supplies. We took flour, oatmeal, beans, bacon, sugar, condensed milk, dried apples, salt, baking powder and butter in tins. These provisions were to last three months with the expectation of getting game. We had an additional supply of flour and sugar for trading with the Indians, and for this purpose we also took a supply of tobacco, knives and trinkets. We also carried a moderate supply of ivory soap and of olein soap and some tallow candles. Our cooking outfit consisted of a frying pan, a coffee pot, a tea pot, a stew pan, two plates, two cups, knives and forks, a sailor's sheath knife and a gold pan. The last was for mixing flour and for prospecting. This outfit proved quite adequate and we never once missed anything we left behind.

Our tent was the type that is used by the Geological Survey of Canada. Its entire front forms a

flap which can be raised, leaving the tent wide open. This fly, when let down, can be fastened by means of lashings at either edge, closing the tent up tight. It has many advantages. The fly, when supported at the corners by two light poles, gives you protection from the rain when you have work to do that cannot be done inside of the tent. The fire can be built just clear of the fly in such a way that you can sit under the canvas and dry yourself off or do your cooking in rainy weather.

As a protection against mosquitoes, we made for ourselves an inner tent of net. In making camp we always cut poles and pegs and carried none with us.

An essential feature of our outfit was our improvised grub-box, a simple affair two feet long by fourteen inches wide by a foot deep with a securely fastened cover. In this we always stored such food, utensils and dishes as we had, together with tea, coffee and various articles of food left over from one meal to another. This simple and indispensable device was in use as often as we made a meal or prepared a cup of tea during the entire trip. We had a $6\frac{1}{2}$ x $8\frac{1}{2}$ camera with twelve dozen glass plates, a rifle and a twelve bore shot gun. Each of us carried



THE SAME SCENE AT 10.30 P. M. THE SUN HAS COME OUT FROM BEHIND A CLOUD

a dunnage bag for his spare clothing, his towels and his toilet articles. When we had loaded everything into the canoe it was well filled in the middle without crowding the ends which were reserved for ourselves, one at the stern and the other at the bow. I forgot to mention a supply of matches, and also that each of us provided himself with a match box consisting of a twelve bore brass shell slipped into a ten bore shell. This is the best possible box for carrying matches in the pocket. Our sleeping gear consisted of a pair of double blankets. The outfit was completed by a canvas tarpaulin big enough to cover the cargo of the canoe completely. The box containing the dry plates was always kept rolled in a sheet of oiled duck. A bag made of Italian cloth enabled me to change the plates in the holders in the daylight. I had brought with me a specially constructed wooden box to hold the camera with six plate holders and a supply of plates. This was very handy for packing and was also very safe.

On June 26th, at four o'clock, the days being long, we left Fairbanks and floated down the Tanana. When night fell we made camp on a narrow bar close to the wooded bank, and here we had a lively experience with the terrible

scourge of Alaska, the mosquito. We had provided ourselves with nets suspended from the brims of our hats. We also wore gloves except when using the poles. Otherwise it would have been impossible to endure the continuous assault of the hungry Alaskan mosquito. They are so numerous and so aggressive during the brief summer that I have no doubt whatever that they are quite capable of killing an unprotected man in a few hours. With the aid of a smudge fire under the fly, we endured them while we cooked and ate our supper. Then we made a bed of spruce boughs inside the mosquito tent and, crawling inside, we lay there and smoked our pipes in perfect comfort. When we were ready to go to bed, all we had to do was to take off our outer clothes, put them under our heads, roll up in our blankets and go to sleep.

Proceeding next day, we camped, near night-fall, on a high wooded bank in a heavy rain. It was dark when we had the tent pitched and the fire going in front of it and we were able to dry ourselves under the fly, for we were thoroughly soaked. With a smudge fire under the fly, we were able to make fairly successful war against the mosquitoes, and we cooked our dinner, washed our dishes, lit our pipes, dried our clothes,

kept the fire going with heaps of dead wood we had gathered, listened to the pouring rain, told each other yarns, laughed and were supremely happy. In describing the first camp, I mentioned a bed of spruce boughs on which we lay. At the second camp also we made for ourselves the same excellent provision and during our two months' journey at our successive camping places, so long as the spruce trees stayed with us, we never once omitted to make ourselves this bed of the fresh fragrant boughs. It made no difference how weary we were or whether we camped in the dark under a pouring rain or in fair weather; cutting the boughs and laying them carefully to form a double pallet was a part of the discipline of making camp. It was a good measure, for it always insured a good night's rest and a refreshing sleep. When we left the spruce timber behind and came to the willows, we made our bed of willows. The spruce, however, is best, and indeed I do not know a better bed for a tired and sleepy man.

Next day, having some work to do, we broke camp late and did not get started till noon. Towards five o'clock a thunder storm came up and we made camp on a sand-bar. This was one of the only two occasions on which we

heard thunder during the entire summer in Alaska.

The bars in the Alaskan rivers make very attractive camping places, especially when they run well out from the bank. They are below water when the rivers are high, emerging as the water falls in summer. They are formed of clean, well washed sand, deposited in slack water by the floods and they thus afford firm ground without obstruction. They also afford abundance of firewood, for they are invariably strewn with dry splinters of the spruce and birch timbers that line the banks. The trees of every size are cut down, shattered and stripped of bark and branches or split up into a thousand pieces by the ice when the spring freshets set it free and carry it, piled high between the banks, irresistibly down stream. The fragments of trees have a tendency to get caught on the sand-bars or to lodge on them as the floods recede, leaving on each bar an excellent supply of fuel where there is no one to use it.

These bars have another advantage as camping ground, because they are exposed to the breezes and are less apt to be infested with mosquitoes than the sheltered banks with their thick timber.

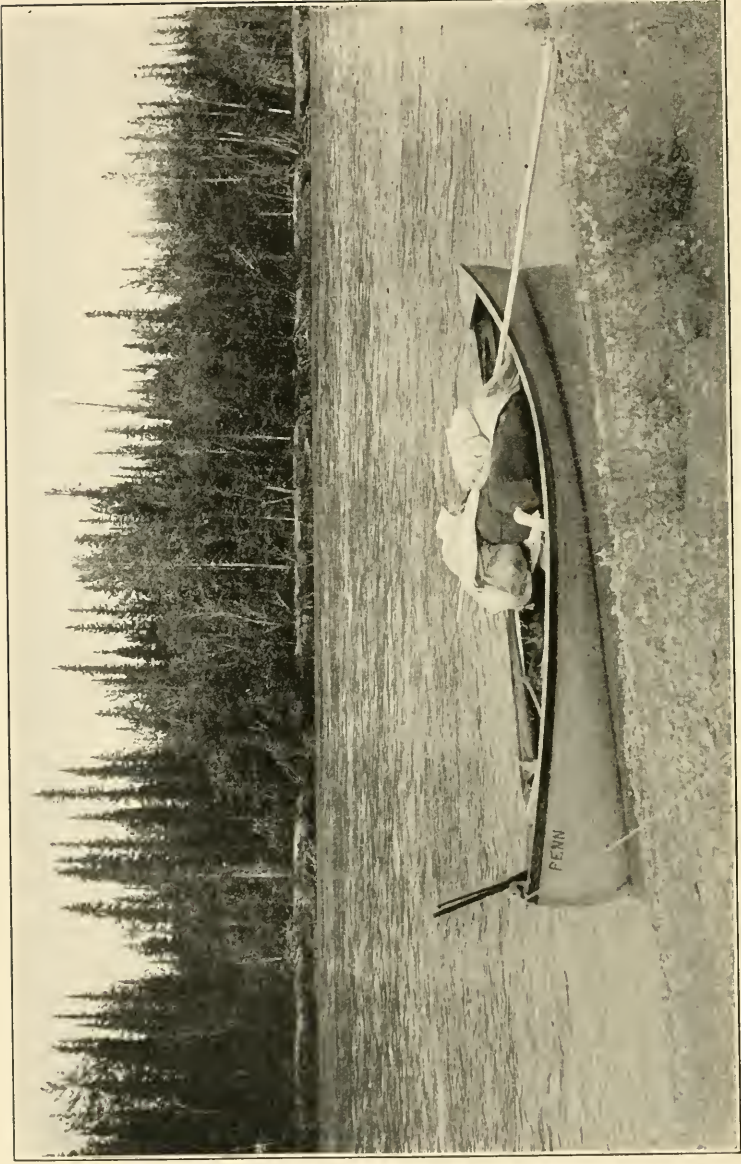
The bar on which we were camped was a good example and an ideal camping place in fair weather. The thunder shower was quickly over and though several hours of the afternoon still remained we decided to stay in camp and enjoy ourselves. We had now escaped the world of men and were far enough away already to be entirely free from care of any kind. The temperature was about the same as a coolish day in May in the south of England or in New Jersey. A fresh breeze was blowing up stream and our camping place was free from mosquitoes. We were, therefore, able to strip and take a plunge in the river. At many of the camping places it would have been impossible to expose our skins without the most painful and even dangerous consequences from the myriad stings of the mosquitoes.

The water was icy cold, but we were already used to that and our spirits grew more buoyant. The supper that we made that evening was one in which we availed ourselves of the utmost resources of our supplies and of the art of cooking as we understood it, and one of us was master of this art as he was a master of camp life in all its details and as he was a master of the art of life generally in all of its relations. At first we agreed to take turns cooking and I had thoughts

of becoming an accomplished cook. Gradually, however, by mutual consent, MacLaren took these duties over entirely, much to the general advantage, and I performed all the other work of the camp, including washing up the dishes.

To return to our third camp, we made ourselves so comfortable and so much at home in a few hours on that sand-bar in the Tanana that we felt as if we could spend the rest of our natural lives there with entire contentment.

That night was a wonderful starlit night, cool enough to make us draw close to the genial glow of the fire. Its cheerful crackling mingled with the murmurs of the river and there was no other sound. We were already rested, and after everything had been made snug we sat by the camp fire long into the night.



THE KANTISHNA BELOW THE FORK

CHAPTER II

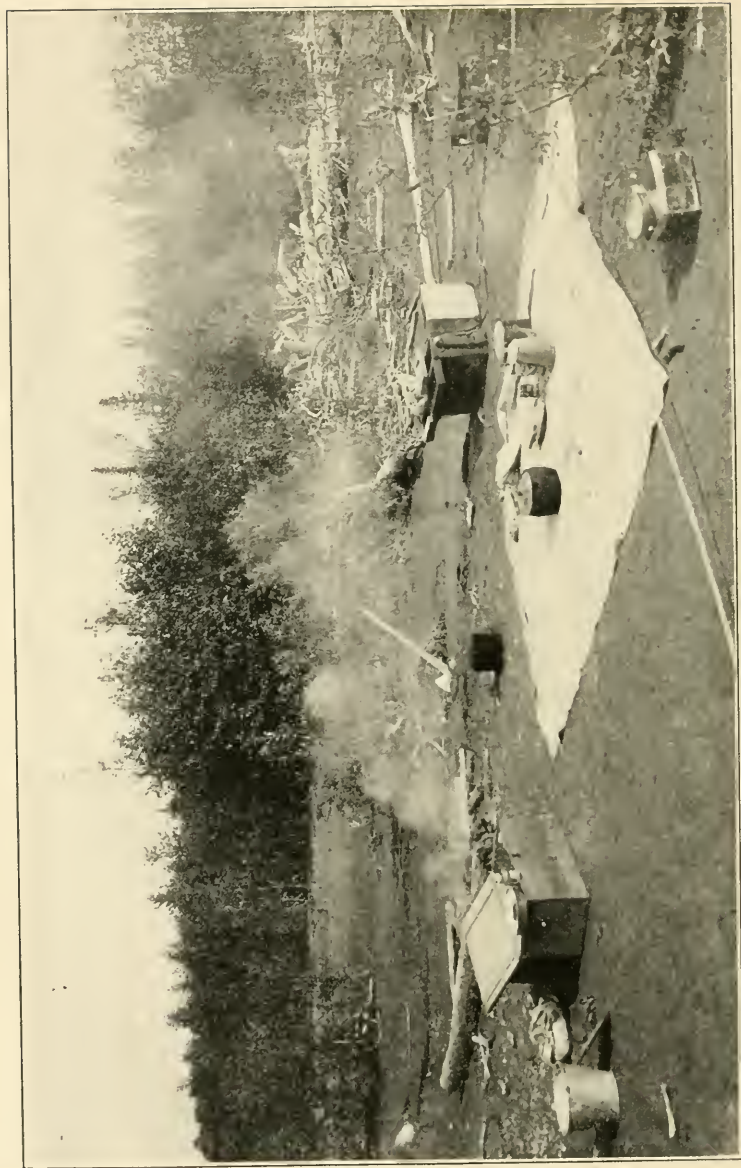
THE LOWER KANTISHNA

We were up at the break of day, but made our preparations leisurely and it was nine o'clock before we started; we paddled with a moderate current for four hours and stopped an hour for lunch. We passed later the little Indian village of Tolovana, where the natives had already ceased to be of much interest, and a little later we reached the mouth of the Kantishna. This stream joins the Tanana in a swift flood about forty yards in width divided by an island which splits the current and forms a fork. Our paddles were of no use now. To meet the opposing current of the Kantishna, which we were to ascend, we must resort to the poles. There were plenty of slender spruce trees on the bank, some of them so withered and dry that we had no difficulty in finding two that were suitable for poles. With these we were able to push the canoe against the swift current, and at 8.30 we pulled up against a sandy bar on the island that at that point divided the stream, and there made camp.

Here, in spite of a stiff breeze, the mosquitoes

were very bad and assailed us in clouds. On the following day we stayed in camp, making a better selection of poles, smoothing them down and fitting them with iron spikes and rings at the bottom. These irons we brought with us and fortunately so, for we found before many days that the poles in many stretches of swift water and hard bottom would not have taken hold without the iron bits. The poles were sixteen feet in length and this length proved almost too short in deep water.

At this camp we had a strange and pathetic visitor. A lost dog came out of the woods, swam the left fork of the stream and made the appeal for the friendship and the protection of man that only a dog can make. He was, I think, a dog that had never known much kindness, for he crawled across the sand-bar, slowly dragging himself on the ground, in the most abject attitude that even a dog in the last extremity of his need can assume. How he came to be there I cannot say, but we suspected that one of the small flat-bottomed steamers that ply up and down the Tanana as far as Fairbanks had stopped, not far away, perhaps weeks before, to get wood, and having gone ashore, the dog was left behind. He was evidently half starved



GETTING LUNCH ON THE KANTISHNA RIVER

and in a desperate state. He, at any rate, had not felt the call of the wild, or if he had, he soon tired of it, for a more sorry and a more melancholy animal, we both agreed, had never been seen. When we spoke to him he rose to his feet and there was a look in his eyes that I have never forgotten. It had in it the whole story of the relation of the dog to man. It was the appeal from the past, the silent servitude, the tried friendship, and the claim for protection of fifty thousand years. It was the opening up of a weird vista running back to the savage dawn of man filled with vague memories of companionship and devotion. No lost human soul in its utter extremity could make an appeal one-half so profound.

When he had been fed he lay down in front of the tent and never once took his eye off us. From that time on he tried to show in every way that the one object of his life was to give such service as a dog can give in return for human companionship—his supreme need.

It was at this camp that we had our one accident of the journey. The fly of the tent being up, a gust of wind blew a spark into the mosquito netting which immediately took fire. Mac was upon it in an instant, but before he succeeded

in smothering it, it presented a seriously damaged appearance. If he had been a moment later, it would have been too late. As it was, we were able to repair the damage. The loss of the mosquito net may seem a relatively small matter. As a matter of fact, it would have been a most serious disaster, for it would have been impossible to sleep without the protection that it afforded. Fortunately, the fire was caught in time and it was a little thing. My only reason for mentioning it is to illustrate how slight a thing might have ruined our trip, and also to bring out the fact that apart from this, not a single untoward incident occurred during the canoe trip across Alaska to the shores of Bering Sea.

At one o'clock we were ready to proceed again and we started up against the current, making good headway by means of the poles. The current at this part of the Kantishna is about $3\frac{1}{2}$ miles an hour. Now, poling a twenty foot canoe carrying half a ton besides our own weight, against a shifting current, even in good water presents difficulties and requires both strength and skill combined with judgment, especially for the man in the stern who must watch the water constantly and guide the movements of

the canoe according to the movements of the water. The man at the bow has his own difficulties, for, watch the water as he may, he cannot see the shifting current in relation to the course of the canoe so well as the man at the stern whose movements also he is unable to see. Consequently it may often happen that he exerts his strength in a direction opposite to that intended by the man at the stern, who is already having his troubles in holding her true.

It is different with the long poling boat with spoon bow and shallow bottom such as is used by prospectors in Alaska. Its great length gives the man standing in the projecting stern a much greater control in steering; its draught is less and its lines make it less susceptible to the push of the current.

My own earlier experience in poling was negligible. MacLaren, who had more experience, usually took the stern, especially when there was swift water requiring extra skill and judgment to negotiate.

The river attained in places a width of more than one hundred yards. Its banks were lined with a thick growth of spruce and birch trees of small or medium size with no very large timber. The largest trees were perhaps fourteen inches

in diameter. Projecting sand-bars were numerous, affording good camping ground. We always stopped on one of these sand-bars about mid-day for an hour to prepare and eat lunch and again for a few minutes in the afternoon to make tea. Working eight to ten hours a day against a strong current soon hardened us and put us in a fit condition for anything we might meet. On account of the wooded banks we could do no tracking except for certain stretches where pebbly beaches or shallow water lay close to the bank. When the conditions suggested our taking advantage of these intervals we took to the line and sometimes waded knee deep or waist deep in the icy water, which by this time involved no hardship, for we were completely hardened to it. In fact, our clothes were seldom dry, for the drip from the poles, as we swung them up from the deep water, kept us wet. It made no difference, for we were content either way. Besides, rains were frequent and often at night we had to remove everything from the canoe to bail the rain-water.

We were now in a country that had every appearance of game country and we were constantly on the lookout. Moose tracks were very frequent on the bars and it was evident that the

animals had been to the river to drink within the week. There were, however, no absolutely fresh tracks. Bear tracks were common enough too, but though we kept a sharp watch we saw no game at all except once when we saw a moose swimming the river a long way ahead. I sighted for 400 yards and fired from the bow, but there was a stiff breeze and the canoe was bobbing on the waves and my aim was bad. I fired as the moose topped the steep bank; he slipped back a few paces, recovered himself and disappeared in the timber. When we arrived at the place, we found a few drops of blood on the bushes at the top of the bank, but we were unable to follow it any further and soon gave up the useless search. We had expected to find game before this, and to account for its absence we concluded that the moose and caribou had all gone back to the hills to avoid the flies, for, besides the mosquito, there was another most obnoxious fly nearly as big as a wasp with a yellow body and a painful bite. We were now without fresh meat for two weeks. Our fare consisted of beans boiled with a few slices of bacon, scones baked in the frying pan, and coffee, with some dried apples for dessert. This was our dinner. For breakfast we had rolled oats with sugar and

milk, fried bacon, scones and coffee. The scones were fresh-baked every day at dinner in quantity sufficient to last till lunch on the following day. For lunch we had boiled beans, scones and coffee. A pot of beans lasted us about three days; warmed over each time, they never lost their flavor and they always tasted delicious. Indeed, I know of no better substitute for fresh meat when one is doing hard work and undergoing fatigue in the open air.

I am now reminded of our friend, the dog. He had accompanied us from day to day, making his way along the bank, no very difficult matter, for our progress hardly averaged more than a mile and a half an hour. His difficulty arose from our having frequently to make a traverse, that is to say we had to cross the stream to take advantage of the slack water as the main current swung from one side to the other. In these crossings we usually lost a short distance by being carried down by the current, but these losses were a necessary part of our progress up the river. This was a lesson that the dog never learned, for, instead of remaining on the same side and making his independent way at his ease, he was so afraid of losing us that each time we headed for the opposite bank he swam across

also and was carried much farther down the stream than we were. This was fatiguing work for him; because sometimes he would hardly have overtaken us when a sudden shift of the water would force us to cross again. We could hardly have taken him in the canoe, filled as it was above the gunwales. To attempt it would have increased our difficulties and we had little doubt that the dog's experience would soon teach him to keep to one side of the river and spare himself the fatigue of swimming. He kept with us for five days. We fed him the little that we could spare and were always hoping to get game. He must have been very hungry, but though there were opportunities for him to steal, he never stole. At night he always lay down beside the canoe and placed himself on watch, intimating very plainly that he understood his job and only hoped that we were satisfied and found him useful. To be sure, there was nothing to protect the outfit from during the night, since we never saw either man or beast. But that made no difference. On the sixth day from the mouth of the Kantishna, however, the water was bad, very swift and shifting, forcing us to make many traverses. Sometime during that day, we being very much occupied with the work in hand,

the dog disappeared. We thought he would turn up when we were making camp at night, but we never saw him again. It seemed likely that he became exhausted by his constantly repeated crossings and re-crossing and, being caught in a swift current or a whirlpool, was drowned. We felt sorry, not because we needed him, but because a dog will attach himself to a man, that being his nature.

On the sixth of June, at 8.30, we camped in a small open space in the thick spruce timber near the mouth of a creek. Here the mosquitoes were unusually bad, but we were able to reduce the plague considerably by a circle of smudge fires. The days were rapidly getting longer, so that camping as late as half after eight, we still had plenty of daylight to set up the tent, cook our supper, wash up and make everything snug and comfortable before turning in.

We now decided to spend a day in this camp and have a try for game. In the morning we took the empty canoe and paddled several miles up the creek and saw only a few ducks with their flocks of young but a few days out of the eggs. The boldness and persistence of the mother birds in feigning a broken wing and endeavoring to lead us in pursuit away from the young, who



DENALI FROM THE NORTH. AFTER A SKETCH BY THE AUTHOR
FROM A POINT JUST BELOW THE FORK

were thoroughly instructed to keep still and make no demonstration whatever, were more marked than I have ever seen. In each case the mother bird, long after we had passed the place where we saw the little flock huddled together under the bank, swam and fluttered in front of the canoe, giving a very accurate imitation of a wounded bird in distress endeavoring to keep away from the hunter. Having acted in this way until, according to her calculations, we had been lured far enough away from the little flock, she suddenly took wing to disappear over the trees, returning unseen to her ducklings. Instinct often seems to be more certain and unerring than reason, and one cannot but wonder how the latter faculty came to supplant the former in the course of evolution. Moreover, in the woods, one is constantly made aware that the resources of the one do not differ in kind from the resources of the other, and that the wild creatures of the woods employ the same expedients and have recourse to the same methods as diplomats.

CHAPTER III

A DESERTED TOWN

We returned from the creek about midday and spent the afternoon on a tramp through the forest hunting for signs of game. We saw plenty tracks of moose and bear, but we returned late without having seen any other sign of their presence. It was evident that all the big game had abandoned the vicinity of the river quite recently for the higher grounds many miles away. We decided that we would not go in pursuit, but trusted in the likelihood that on the upper reaches of the river we would find game, for the higher we ascended the more we found ourselves in what had all the appearance of good game country.

On the 10th of July we passed the mouth of a good sized stream coming in on our left. This stream we had learned was known to prospectors as the Bear Paw.

At about this time I began to experience a certain discomfort for which I was heartily ashamed. We were often in the water dragging the canoe over swift shallows and I had discarded my moccasins and indulged myself by going



SCENE ON THE UPPER KANTISHNA



SCENE ON THE UPPER KANTISHNA

barefoot in spite of mosquitoes and flies and sun, which, though not hot, had sufficient power to inflict a burn. Alternately exposed to the sun's rays and the ice cold water, there set up a peculiarly painful sort of inflammation on my left instep. Probably it was aggravated by the poison of fly bites or mosquito bites; at any rate, it soon became so bad that I could not endure the contact of a moccasin and the pain became very severe. It was especially annoying, because I knew it was the result of carelessness and ineptitude. I knew too that Mac knew this also, though he would not have me think so.

On July 12th my foot was so bad that my brother proposed that we stop to take care of it. His tenderness and concern for me were more than I deserved, seeing that my trouble was brought on by my own stupidity. He made me keep quiet and by his constant good humor and admirable spirits, he soon made me forget all my mental discomfort.

Next day I was so much better that we started out at nine and during that day and the next we made very good progress. On the morning of the 15th, however, my foot began to trouble me again and we rested in consequence till 3.15, when we decided to go on and look for a better

camping place. We had gone only an hour and three-quarters when we came suddenly and unexpectedly to the deserted town of Roosevelt. In the meantime it had begun to rain. The town was on the left bank. It consisted of about a dozen log cabins strung along the bank where the timber had been cleared away. They looked as if they had been just built and one of them, the largest and the only two storied structure, was evidently the hotel. Everything was in good order and all that Roosevelt lacked to be a great city was a population.

We examined several of the cabins and finally decided to put up at the hotel.

The door of our hotel was nailed up and we wondered whether we would be committing larceny if we broke it open. We agreed to take chances, for the rain was becoming very heavy. We pried open the door and found a perfectly clean and absolutely dry interior. The floor was of rough planks and there was a new and perfectly good kitchen range installed ready for use. Evidently it had been used but little. We soon had the canoe drawn up and made fast directly in front of the building and had transferred our provisions and blankets and whatever we needed. We built a roaring fire in the range, dried our

clothes and made ourselves as comfortable as if we never meant to leave the place again. The house was empty except for the range and we made good use of this, not only for making ourselves warm and dry but for cooking as well. We now had fresh biscuits in place of scones, and though our appetites never grew tired of the last, the biscuits (and they were good ones) were a joy to us, and in order that our sudden and unexpected return to hotel life should not be wanting in luxury, we devised a number of entirely new and fanciful dishes of which our appetites highly approved.

When we were ready to turn in that first night in the town of Roosevelt, we carried our blankets and mosquito net to the second floor and slept on the boards. It was the first time we were without a bed of spruce boughs, but we were so hardened by this time and slept so easily and soundly that the hardness of the boards was not noticed.

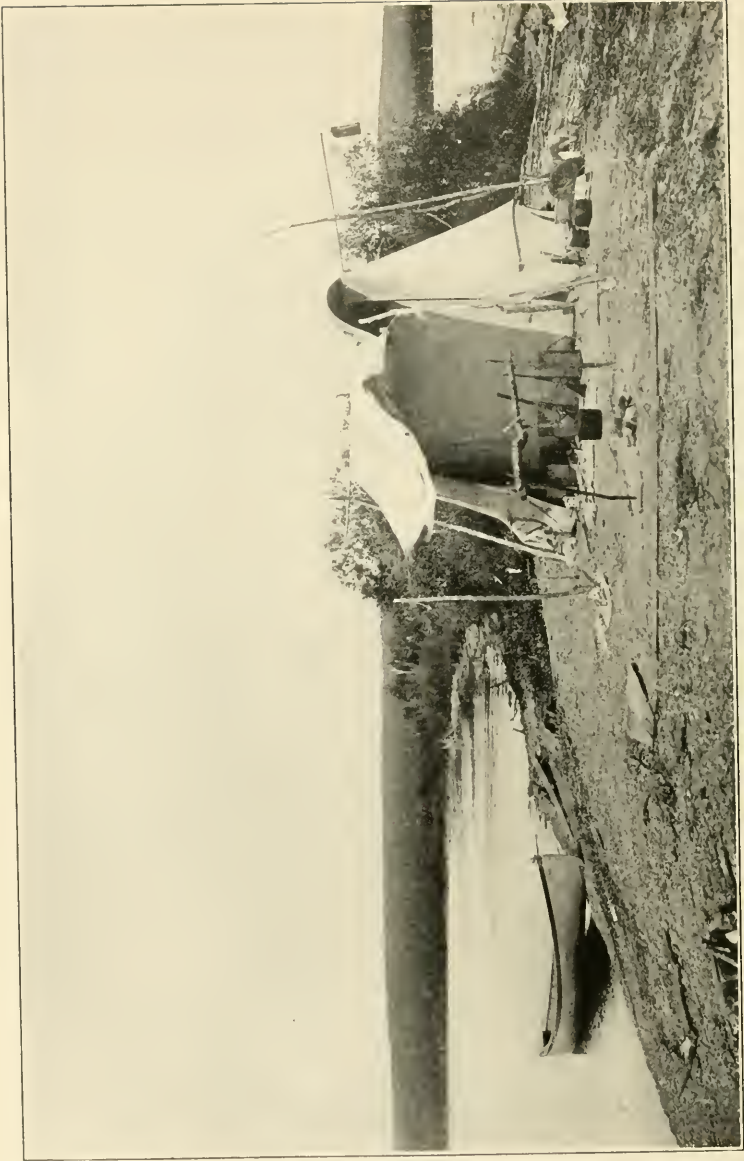
Some time in the night I was awakened by my brother, who poked me in the ribs and said he heard voices. Soon we were both wide awake and we heard the rain on the roof and we distinctly heard the voices of men outside. What could it mean? Certainly we were not expecting visitors.

We were sixteen days without seeing human beings and it had been growing more and more clear to us that we were getting farther each day from human society. Having gone to sleep with a sense of complete isolation and security, to wake up in the darkness, hearing human voices outside the door, was an unwelcome experience.

We had taken the precaution of fastening the door on the inside, but we knew that it could be easily forced; therefore when we heard the men (we did not know whether there were two or twenty or whether they were Indians or white men) begin to pry open the door we realized that the situation had to be faced no matter how it might develop.

MacLaren, always prompt of action and a stranger to fear, struck a match, lit the candle and was on his way down the creaking stairs almost before I realized what he was about. I followed, picking up the rifle as I went. By the time I overtook him he was already opening the door and at once two men dripping wet came in out of the night. Their look of unfeigned surprise and their sincere English expletives at once extinguished the feelings of uneasiness of which I now felt rather ashamed.

They had come on foot two days' journey



OUR CAMP AT LAKE MINCHUMINA

through the woods from a claim or a prospect that they had on a creek. They had run short of provisions and had come to look for a sack of flour which they had heard had been left in one of the abandoned cabins. Feeling their way through the woods along an abandoned trail, they had lost their way and came upon our lodgings by chance in the darkness. They were good examples of the men who roam the wilds and keep beyond the farthest outpost of civilization. Alaska at that time attracted all kinds—some of the very worst and some of the very best. The prospector is a type by himself; you found him sometimes alone, but usually in pairs on lonely rivers, sometimes inquiring what month it might be, but almost never asking for news of the forgotten world.

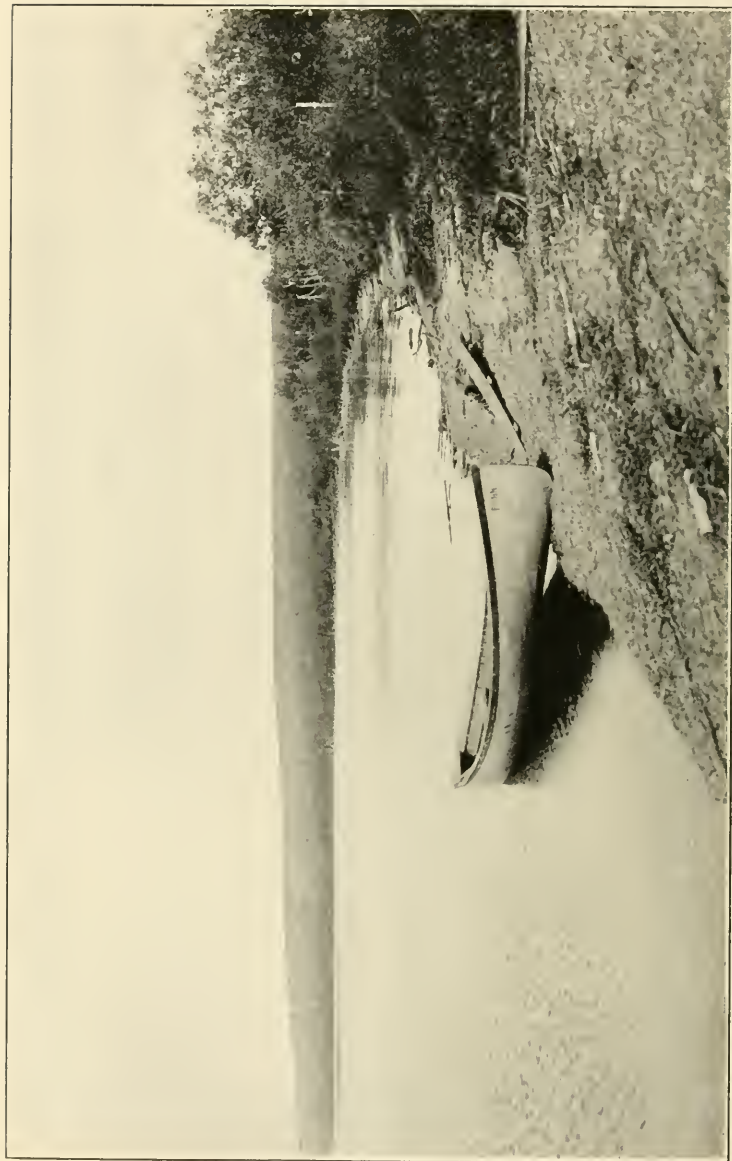
We were soon on the most friendly terms with our visitors. They were men of good information and engaging manner, with the stamp of the wilds strong upon them. Men who lead that life either end by "shaking hands with the willows," which means going mad, or else they become very quiet and very human. They do not grow into wild men. That kind grows only in towns and cities, big and small.

It was obvious to us at once that these men

from the night and the storm and the wilds were our guests. They apologized for their intrusion. They were desperately hungry as well as wet. We soon had the fire going and we had it from their own lips, and I think from their hearts, that they were glad of our hospitality. It was rough to be sure, but we did our best and we liked the men for their quiet but sincere and hearty manner.

On the next day they found the sack of flour hidden in a corner of one of the cabins, and, I think partly to avoid imposing themselves on us, they said good-bye and left us to return the way they came, though the rain continued to fall.

I now suffered more than ever from my left foot. The skin had broken on the middle of the instep, there was much inflammation and any muscular action caused great pain. On this account, as well as on account of the rain, we decided to stay comfortably where we were till I got relief and the weather improved. For two days the rain continued and for two days I made rapid progress. On the third day the sun came out, and on that day I could wear my moccasin and walk without serious discomfort. Mac was for waiting till the foot was completely healed, but this time I had my way. I was sorry for



SCENE AT LAKE MINCHUMINA LOOKING NORTHWEST FROM OUR CAMPING PLACE. THE POSITION OF THE PORTAGE IS AT THE EXTREME LEFT OF THE PICTURE

it later, for I soon found that I was little, if any, help in poling. Worst of all, we soon struck very swift water and Mac had to do most of the work himself. It was hard work too, but for five hours he swung his pole to such purpose that with but small help from me he had put many miles of swift and broken water between us and Roosevelt.

As we swung round a bend about four o'clock we opened up before us, under a perfectly clear sky, a distant sky line where the river divided the timber in a stretch of several miles. The view which then greeted us was extraordinary and startling. Right in front of us rose a mountain, broad at the base and culminating in a steep and jagged peak high up in the heavens. From its broad base to its summit it stood glistening white against the blue, huge and amazing. We judged it to be fifty miles away. It may have been more. We had already caught a glimpse of Denali, the great mountain, half buried in clouds, and now for the first time we saw it naked and splendid. Surely not without reason did the Indian call this mighty mass Denali, which means The Most High. Standing four miles above the level earth, it is a sight worth going a long way to see. We camped at four

o'clock on a beautiful sand-bar with that awe-inspiring scene keeping its spell upon us as long as the daylight lasted. And the sun set and night settled down over the valley and still Denali's top blazed out above the darkness like a beacon in the sky. Even after it had faded into the night we could hear from time to time a rushing, roaring sound like a distant wind. It was the noise of the avalanches; or was it the laughter of the gods?

In the morning we had left Roosevelt silent and forsaken on the river bank, dreaming of an Alaskan summer day and of creeks with beds of gold. In towering Majesty that loomed above, he saw that which was no dream but an awful presence whose voice he heard in the stillness. It was McKinley.* Serene, remote and robed in spotless purity, the Northern Lights were the curtains of his tent and the midnight sun kept watch before his door. It was thus that the great mountain looked down on the little abandoned town, and as we thought of these things we recalled the words of Elihu, the son of Barachel the Buzite, what time his wrath was kindled: "Behold, in this thou art not just. I will answer

* The name by which Denali (pronounced De-nā'-li) is called on U. S. Government maps.

thee that God is greater than man. Look unto the heavens and see, and behold the clouds that are higher than man.”

Looking back on these scenes today I see in the names that thrust themselves into the eternal scheme of things, merely an example of the injustice and lack of proportion as well as want of propriety that seems to pursue the work of the pioneer in America. There is no evident connection between the name of ex-President Roosevelt and the ghost of whimsical human error that stalks through an abandoned mining town. Neither is there any obvious sense of fitness to reconcile one to the association of ex-President McKinley with a natural feature of the Alaskan landscape. These names owe their presence on the map to no fault of the public men with whom such liberties have been taken, but to a practice on the part of pioneers or of map makers that ignores both justice and propriety, and that derives its only authority from contemporary politics, mistaken sentiment or false patriotism. There are many people who prefer the practice that has given us such names as Manitoba, Mississippi, Oregon, Tacoma, Popocatepetl and Chimborazo. For their sake I am going to persist in using the name DENALI like the

savages who have some priority in the matter and who have their own fancy for names.

The builders of the man-made town have an unquestioned right to call it what they will, but the mountains are not man-made, and having seen this masterpiece of His handiwork, I have not the will to remove therefrom the name of The Most High. If the soul of the savage, through the ages, aspired to God in the presence of this sign of His power, to what did the white man's soul aspire when he approached it from afar?*

I fear that when we stand, as we must do, before a future generation of men appointed to judge us and our works, it will surely be found that we in our unchastened years of guilt and shame, being full of vainglory, forgot among many counsels the scornful cry of the creator according to the Hebrew poet: "Where wast

* The first explorer to mention the big mountain was the great navigator, Vancouver, who saw it in 1794 from that arm of the sea which he called Cook's Inlet. Vancouver records his impression of the view which a hundred miles away was to his experienced eye "stupendous."

The Russians must have had the same view, for though it is not mentioned in any of their writings, they had a name for the mountain derived from the natives of Cook's Inlet. In 1878 Harper and Mayo, famous in the pioneer annals of the Yukon, ascended the Tanana. In a letter that has been preserved, Harper mentions having seen from that river "a great ice mountain to the south."

thou when I laid the foundations of the earth? declare if thou hast understanding. Whereupon are its foundations fixed and who laid the cornerstone thereof when the morning stars sang together and all the sons of God shouted for joy?"

On the 19th of June, so rapidly did my injury heal in the pure, uninfected air, that I was free from all discomfort and able to do my share of the hard work in the swift water. The day was again bright and with scarcely a cloud in the sky; we lingered in camp and it was 11.45 before we took up our poles and headed toward the great mountain. The water was still swift and for two and three-quarters hours we had as hard work as at any time since we entered the Kan-tishna. At that time we reached the fork without expecting it. The left fork proved to be very swift and muddy and filled with the silt that is fed into it from the glaciers on the flanks of the great mountain. We pushed into the right fork, for our road lay in that direction, and found that the water was quite slack and much more clear than any we had seen. We found now that we could change from poles to paddles, which was a very great relief. It was twenty days since we had cut our poles and during sixteen of these days we had poled our way up stream, only on

rare occasions varying the work by use of the line. To swing a stout sixteen foot pole for ten hours a day and keep headway on a canoe with a considerable draught, against a current that varies from two miles to five miles an hour is exercise which I can recommend for any one who wants to get in good condition in a short time.

The whole aspect of the country was now changed. The spruce timber disappeared and gave way to a thick growth of willow and alder with occasional small birch. Also the banks were of clay and low with numerous ponds on either side. There were no longer any sand-bars and good camping places were hard to find.

On the 20th of July we passed the mouth of a clear stream on the left with a deserted Indian cabin on the bank. This stream we afterwards learned is called by the Indians Nutchitalichakat. After this the water grew more slack, the banks more muddy and the country more swampy. We missed the firm sand and the hard dry ground under the spruce trees that afforded such good camping places on the lower Kantishna. Often in stepping ashore on what was apparently a grassy bank we found oozy mud, and this was a condition we had to get used to and make the most of. In places there was long grass grow-

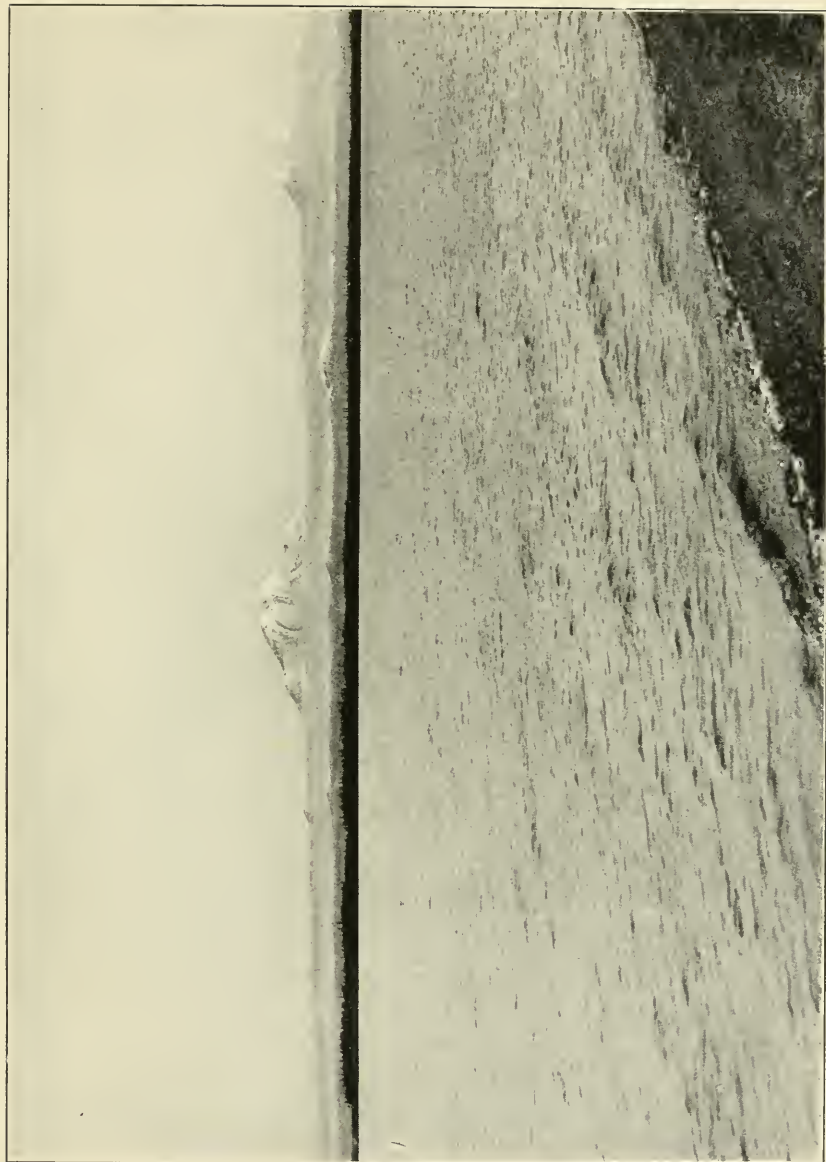
ing in the mud. By covering the growth with willow twigs we were able to make ourselves comfortable in our tent. Dry firewood became scarce, but we always managed to gather enough.

However, there were compensations and they were by no means small ones. The water grew more slack and paddling became easier. Then the numerous ponds proved to be the haunts of ducks and we were in sight of flocks most of the time. The young were now grown. It was on the 21st of July that we saw the first of these flocks and shot three mallard and a widgeon. (Naturally we did not shoot the birds with young that we saw on the 7th.) I soon became acquainted with and learned to distinguish almost every variety of duck that is known on the American continent. The most common were mallard, canvas back, teal and widgeon. It was one of my brother's many accomplishments that he knew everything in fur and feather from Mexico to the Arctic. He knew their habits and he knew them in all their varieties. Consequently I learned many things in those three months that I have forgotten since.

The days had now grown so long that there was scarcely an hour of darkness. The sun was still above the horizon at ten o'clock p. m. On

the 21st, the day that we shot our first game, we stopped for two hours to prepare one of them and to enjoy the first meal of meat in twenty-three days. The ducks were fat and in fine condition, and being cooked in a frying pan, the readiest way of preparing them, I am sure nothing ever tasted so good to anyone. We were now in the pink of condition, as hard as flesh and sinew could be made and in perfect health. On that day we kept on paddling until after midnight and then we found that the night had vanished and the darkness was blended with the day. There was a long twilight which grew till midnight and then it began to lighten again. On the following day we started at 2 P. M. and it was again midnight before we camped. We were several hours searching for a suitable camping place and were finally compelled to pitch our tent in the mud and make the best of it.

Altogether we were taking it very easy and enjoying the good fare, the fine weather and the easy going. The river at this part is extremely crooked. It is always turning and doubling back upon itself and reversing its direction for miles. At times it spreads out over the flat country or divides and breaks up into many sloughs, often very bewildering. If you happen to take a wrong



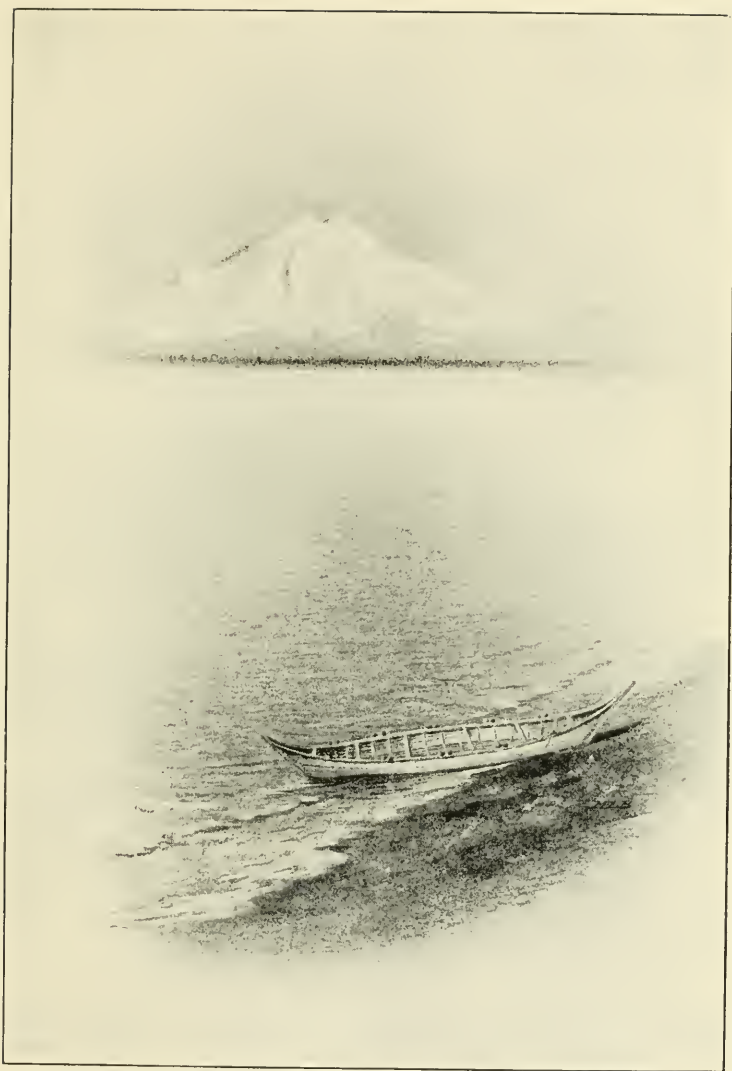
VIEW LOOKING SOUTH FROM LAKE MINCHUMINA

turn you may be led many miles away from the main stream without knowing it.

For several days we felt that the lake must be at hand, and at every turn we expected to see it spread before us. A certain streakiness in the water puzzled us. At places it presented a dark appearance and in close proximity another streak presented a lighter color due apparently to finely divided particles of rock that it carried in suspension. This we recognized as glacial silt and we therefore concluded that there must be a glacial stream coming into the Kantishna between us and the outlet of the lake, the lake itself supplying the clear dark water. After paddling for two days more through a flat and dreary country, without reaching the lake, we began to doubt the accuracy of our deductions, and my brother asked me if I thought we could have got on the Amazon by mistake.

On these wonderful days of sheer delight we never left camp till after we had lunch. We stopped always later in the day to make tea and camped about midnight. On July 24th we broke camp at 3.15. Shortly afterwards we shot our first goose and at seven o'clock, after we had decided to forget about the lake, our immediate goal, we turned a sharp bend and there it lay spread out

in front of us. Just at its outlet a swift stream comes in from the south from the direction of Mount Denali, heavily charged with silt from the glaciers. We afterwards learned that this stream is called by the Indians Kwalana. When we had passed this tributary and entered the lake we found the water perfectly clear, and we had soon selected a good camping place on the shore not far from the outlet. The shore at this point was hard and pebbly and covered with a thick growth of willows and alder and small birch. We saw a promontory with a high bluff to the southwest across the lake and fixed upon this as a lookout from which to take our observations. The next morning being clear and with only light winds we crossed to this promontory in about an hour, passed round its extremity and, turning to the south, drew our canoe up under a high bluff with a sandy beach at its base. The promontory terminates in a spit ending in a long sand bar that runs straight out under water and forms a shoal. It is well, therefore, for anyone crossing the lake to give this point a wide berth.



DENALI AS SEEN FROM OUR CAMP AT LAKE MINCHUMINA.
AFTER A SKETCH BY THE AUTHOR

CHAPTER IV

THE KINGDOM OF DENALI

We climbed the bluff and followed the wooded ridge southward until it began to fall away. Returning to a high point which we had marked, where the wood was sufficiently open to give a good outlook, we searched with the glass the horizon and the border of the lake in every direction. In the north the country was flat and wooded. Around the southern shore there stretched a narrow belt of the same low lying scrub timber; behind that belt, the land rose and showed bare of timber. Still farther back the higher hills were covered with snow; back of that rose the Alaskan range and, lifted over all, the loom of Denali, shimmering white, lit up the Southern sky. From this point of observation the mountain shows a double peak. We judged it to be about fifty miles away, but so great is its height and mass that it seemed much nearer. On so vast a scale are its scarps and ramps that they were clearly revealed even at that distance. We agreed that we had never seen anything so overpowering in its solitary

grandeur. Near it, towards the west, stands another peak not so high or so grand, which, as we were soon to learn, the Indians call Sultana and also Menlale.

This was the panorama that presented itself from our point of observation; not a living thing was in sight, not a sign of an Indian habitation, not a sound, not a trace of human occupation. We were alone in the heart of a vast and unbroken wilderness where, so far as we could see, the foot of man had left no trace. Yet somewhere on that lake we expected to find Indians, so we continued to search the shores with the glass. The lake seemed to be about twelve miles across at its greatest width, and there were plenty of little bays where a village might be hidden. We had about concluded to start out on a complete circumnavigation of the lake when MacLaren declared that he saw smoke and handed me the glass. Across the lake at the right, a very slender wisp of smoke hung against the spruce. It was enough: we descended to where the canoe was beached, lit our fire, cooked our midday meal, took plenty of time to digest it comfortably and started out in the direction whence we had marked the smoke, now vanished.

Arriving at the opposite side we rounded a

long narrow point of low land covered with trees and saw an encampment consisting of three brush tents, the summer camp of a band of Indians. We landed and were met by two men and seven dogs, the latter so savage and threatening that the men had to beat them down. In the tents were three women and two children. In pantomime we explained to the men that we had come to visit them, pointing out the way we had traveled. By similar pantomime they told us a story by which we understood them to mean that they had both made a journey several years before down the Kantishna to the Mission at Tanana. They had apparently remained there long enough to be baptised, for one explained that he was called Luke and the other that he was called John. At least that is the way it sounded to us and I think that we understood correctly. They had brought with them some cloth, some empty tins and an empty bottle, all of which they exhibited to us with pride as the evidence of their adoption of the white man's civilization. Each had also a complete suit of white man's clothes including the braces. That was not the only evidence of their conversion, for we had not been long with them when they asked us for "hooch," meaning strong drink,

and seemed greatly disappointed to find that we had none. We made them presents of tobacco and a few trinkets and left them to establish ourselves on a good camping place which we had passed at the end of the point of land. Before leaving, however, we were treated to a surprise. There was something the Indians were anxious to tell us, for they kept repeating certain signs with great earnestness as though they wished to communicate some information of importance. The only English word they knew was "man" and after a long struggle we made out that they were telling us that two white men had passed ten days before, coming the same way as we had come and had passed on towards the north in a direction which we felt to correspond to the route we were to travel.

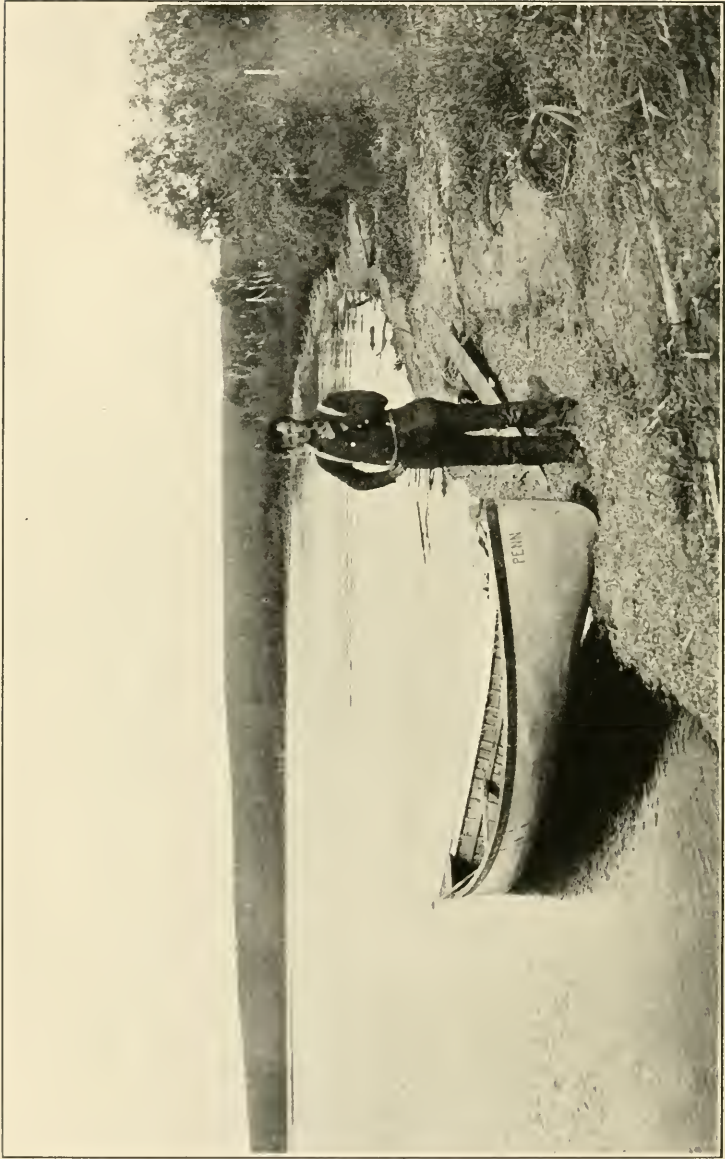
These men, it seemed, had come in a large poling boat filled with many sacks and boxes, clearly a pair of prospectors. We then made diligent inquiries as to whether other white men had ever passed this way. They gave us to understand then and afterwards, as we saw them day by day, that the only white men who had passed previously was a party of six who had come from the southwest and passed to the north with dog sleds in the winter some years before.

This clearly referred to Lieutenant Herron's party.

We made a snug camp on the sand-bar at the end of the point and decided to remain a few days to rest and enjoy ourselves and learn all we could from the Indians and trade with them. On the following day the two men came in their light birchbark canoe and brought us presents of moose meat and white fish, the latter fresh caught in the lake.

Our first effort was to learn the geography of the country, and we had no difficulty whatever in making this wish known. First on the sand and afterwards on a piece of birchbark, the natives drew a complete map of the lake with the streams that enter and leave it, and, most important for us, they were able to show where the head of the great Kuskokwim lay, how it was to be reached from the lake, and the exact position of the portage. This portage had remained an unknown quantity in our minds; we had expected it to be long and it might be high or it might be low. On this point Chief Henry had not been very explicit in 1905, though from his statement about it we judged it to be about twenty miles in length. All we knew positively was that there must be a divide between Lake Minchumina and the

Kuskokwim, a divide which separates the two greatest river systems of Northern Alaska, and we assumed for this reason that it must be a considerable barrier. We were naturally anxious to know how long it would take us to cross this divide. On the map drawn by the aid of the Indians it looked as if it might be a reasonable day's journey for a man traveling with a light pack, and from our own observations we had already seen that there could be no very high ground. When we questioned the Indians more particularly, however, they explained that it was a five days' journey for a man traveling light. This was rather more than we had hoped for. The Indians may have had their own reasons for exaggerating the distance, for we afterwards had the comfort of discovering that in this particular information they were unmerciful liars—were Luke and John. Ten days later when we had demonstrated this fact by crossing the portage ourselves, we found some diversion in trying to find the motive that was back of this falsehood. We finally decided that they meant it as a reminder that they had at least mastered the rudiments of civilization and had not failed to profit by their brief sojourn among people of our race. At first we were inclined to trust them,



MACLAREN GORDON AT LAKE MINCHUMINA

for experience had long convinced us both that untutored Indians are particularly trustworthy.

I must here explain that the winter camp of the band to which these two men and three women belonged, lay to the southwest side of the lake. All the rest of the band were far away hunting near the mountains. The men who remained were undoubtedly lazy and worthless fellows, otherwise they would have been with the hunters who, with their women, were at that time camped on the hunting ground gathering and preparing meat and skins for their winter food and clothing.

One of the things that we learned was that the Indians who live on Lake Minchumina, on the Kantishna and on the Tichininik (North Fork of the Kuskokwim) call themselves "Minkhotana" (meaning Lake People). I could form only a rough idea of their numbers, but one of the statements in which our informants always persisted was that the Minkhotana had formerly been a large tribe with many villages on the lake, on the Tichininik, on the Kwalana and on other streams over towards the mountains. The people living on the lower Kuskokwim, *i. e.*, the Eskimo, they called Totzatla Retu.

The arts and industries of the Minkhotana

Indians, like those of the Tenan-Kutchin and tribes in other interior parts of Alaska, are confined almost entirely to the manufacture of clothing and household utensils.

The clothing is made of the skins of animals and especially of the moose. The most important industry, that of dressing the skins, is carried on almost entirely by the women. The inner side of the skin is first scraped to remove adhering pieces of flesh. After this, the hair is removed by scraping. The brain of the animal is boiled and reduced to a paste and this paste is applied over the entire inner surface of the skin on account of the softening effect. The skin is scalded and is then wrung and stripped of the water and when dry is softened by rubbing. The final operation in this process consists of smoking the skin. A small tent is built of poles stuck in the ground covered with pieces of skin or with brush. Inside this tent the skin to be treated is suspended over a pile of decayed wood. This decayed wood is ignited and the tent closed up tight.

For winter clothing the skins of fur bearing animals are dressed with the fur left on.

The effect of the smoking on the skin is to give it a rich brown color which seems to be its

only purpose. This part of the process is done, therefore, for purely æsthetic reasons. Besides the brown color, the smoking of the skin imparts to it a peculiar and highly characteristic odor, which, to one who becomes accustomed to it, is both pleasant and distinctive. One whiff of that smoky smell after years of city life brings back with great vividness all the details of life in an Indian camp. The clothing made from skins prepared in this fashion never loses the characteristic odor. Men and women wearing this clothing carry with them always the agreeable smoky smell. Kipling's poetical and highly descriptive allusion to "a silent smoky Indian that I know" applies to an Indian of the great timber belts of the American Continent east and west and especially to the Indian of the Northwest and of Alaska. In other words, it applies to the tribes that smoke the dressed skins from which they make their clothing.

The other important industry consists in the manufacture of articles from birchbark. These products vary from drinking cups to the big canoes which carry eight or ten people. Food dishes, cooking vessels, bowls, basins, tubs are all made from birchbark. The manufacture of these articles shows a great deal of skill and of

artistic taste. The borders are always bound with spruce roots, sometimes beautifully decorated. Especially neat and decorative are the cradles or baby carriers of birchbark bound with spruce roots. The canoes are built with flat bottoms, sloping sides, shallow draught, and with high pointed ends. They vary in size from light one man canoes to the larger ones that I have mentioned. As the birch trees do not grow large, no canoe is ever made of a single piece of bark like many of the Penobscot canoes in Maine and New Brunswick. The small pieces are fastened to the ribs separately and the joints are covered with balsam.

The furniture in an Indian house consists of piles of skins on which the various members sleep or upon which they sit or lie during idle hours in the day. The hearth is in the middle of the floor below the smoke hole in the roof. The summer houses are built of brush and the winter houses of logs.

It is always difficult to obtain from a primitive people much information about their religious life. Luke and John, having visited a Mission, were particularly reticent on this subject, and our efforts did not elicit any information that could be regarded as trustworthy. However,

I obtained accidentally a bit of authentic information of real interest, to throw some light on the subject.

One day when I visited the Indian encampment, Luke was sick. He lay on his skins, closely attended by his wife, who sat beside him. I had not been long in the tent before I discovered that Luke had something hidden under the edge of his furs that he did not wish me to see. It was evident that this object claimed special care and devotion on the part of both Luke and his wife. After much persuasion, the Indian lifted the edge of his robe and showed me a wooden image about twelve inches long wrapped in furs and with three feathers attached to the head. He would on no consideration let me take it in my hand or let it out of his possession. To test his faith in his idol I offered him one thing after another without any effect. On another day, after he got well, I tried him again, offering as a test almost everything in our trading outfit, but the result was the same as before. All my offers were firmly rejected until I was convinced that under no consideration would Luke part from his image in which he evidently had great faith. The utmost that I could accomplish was to induce him to let me photograph the image while he

held it in his hand. He was entirely unwilling to disclose any of the secrets connected with it, except that in answer to my signs intimating that it had made him well, he admitted that it had.

Our camp at Lake Minchumina lay at the end of a point of land and commanded a good view of the lake in all directions. Our situation and surroundings presented many attractive features. We were in the heart of what might be called an uninhabited country, for the only Indian village in the whole region was the one I have mentioned, on the shores of the lake, and in winter, when all the inhabitants of this village had returned, its population did not exceed twenty-five men, women and children. In summer even these remove themselves to a distance, and in July of 1907, the only inhabitants of the region lying along our route extending from the Toklat to the Totzona were the two men, three women and two children whom I have mentioned.

Five and six children in a family are not uncommon if Luke was to be relied upon, but there is a high mortality among the very young children. The average number of children born in a family is small, and large families such as one sees fre-

quently among white people are unheard of. I cannot enter into a discussion of the reasons for small families. In fact, I do not know the reason. I once met a man who had lived for a time among a savage tribe on an island in the South Seas. He had made the observation that the number of children in a family was never more than three. He also made the discovery that the people could count only to three, their sense of number not running to higher values. The traveler, who was of a scientific mind, found in the latter observation a complete explanation of the former, because, as pointed out, no man would wish to have more children than he could count.

This perfectly good explanation does not hold in the case of Alaskan Indians—Luke and John could count to two hundred at least.

The sense of solitude about Lake Minchumina was greatly emphasized by the absence of game, for we saw not a trace of any of the larger animals, moose, caribou, or bear that make their home in the northern country.

The most impressive feature of our situation, however, accentuating the silence and solitude, was the great mountain mass that the Indians call Denali. From this point it bears directly

south according to the compass.* Looking directly south across the lake we commanded at all times a most spectacular and absorbing view of this lonely mountain, looking down upon the wilderness from its four white miles of altitude and dominating the northern world. In part its sides seemed sheer. On its right and left flanks, like flying buttresses, jagged walls were thrust out. Its face was seamed and scarred and we could hear even at that distance the thunder of the avalanches.†

Men have always associated mountains with their gods. When Zeus and his troupe performed, the stage was set on Olympus, Moses went up into Sinai to meet Yaweh. The Kikuyu say that God lives in lonely grandeur on the top of Kenya, and who shall say that it was not a similar feeling that moved the Alaskan Indian to call his moun-

* In the view shown facing p. 44 the mountain is seen from a point on the meridian of Denali where it intersects the Kantishna just below the Fork. This point is about fifty miles north of the mountain. (See view facing pp. 60, 62.)

† Mountain photographs, especially when made from a distance, are never satisfactory or adequate. In the camera, mountains lose their magnitude, depress their height and change their proportions. Therefore in addition to our photographs made with a 6½ x 8½ camera and on glass plates, I sketched the mountain both from the Kantishna where we had the first grand view of it and from the lake. Finished drawings made from these sketches are reproduced here in addition to the photograph to give some faint idea of its appearance.



THE AUTHOR ON THE TEN MILE PORTAGE

tain The High One or The Most High? Altogether it was a very wonderful scene, and our camp at Lake Minchumina was a camp of pure enjoyment.

I feel impelled to take this occasion to refer again to certain matters of geographical interest. I do so with the less hesitation because the trip which I am describing had no geographical object in view. The particular matter that I have in mind is the naming of natural features, such as mountains and rivers on this continent. I was impressed during all my intercourse with the few Indians in Alaska that their geographical knowledge is very considerable, they travel extensively and they have names for every topographical feature of the country. These names have always certain attributes to recommend them; they have been spoken by untold generations of men and handed down in the native tongues of the land from unknown antiquity. They are, therefore, a part of the inheritance of the human race and especially of Americans. These place names have, moreover, in each instance a most appropriate significance; they carry with them local associations of special meaning and they hand down long traditions of man's relation with nature.

It has always appeared to me that such arguments as these should make a powerful appeal to American geographers and explorers and to the national conscience. It is more than a matter of sentiment, but even if I were appealing to sentiment alone I should expect the ancient Indian name of a place to make a nobler appeal in this particular connection, than the name of a contemporary politician or the name of any man of our time.

When I returned from Alaska in 1907 I delivered a series of lectures in which I made this plea, with special reference to the mountain that on the later maps bears the name McKinley, but which, as Chief Henry told me at Tanana in 1905, and as the Minkhotana Indians told me in 1907, had been known to them and their ancestors as Denali, "The High One." Would not everyone interested in history and tradition like to see that name preserved?

The view southward from our camp on Lake Minchumina embraced another mountain of the Alaskan range a little to the west of Denali but not so high. For this mountain the Indians had two names. One of these names is Menlale and the other is Sultana. Both these names are Indian words. The first means "Denali's wife"

and the other means "The Woman." Yet on the United States Government map this smaller mountain enjoys the name Mt. Foraker.*

Speaking of names reminds me that wherever we passed on our route a river that was not indicated or not named on any published map, we endeavored to learn and record the Indian name. In this we had no difficulty, and in my notes made in 1907 I find only two important streams which we passed on our route of which I failed to record the name. One of these is the South Fork of the Kantishna, which I find on the latest government maps in this year, 1917, is called McKinley River. The other is the Bear Paw. I know, however, that the Indians had names for these streams as for all the others.

The Indians of the lake country knew every stream flowing into the Kantishna and into the lake itself as well as those flowing into the North

* Four years after our journey Archdeacon Stuck of Alaska in a winter journey from the Tanana to the Innoko to visit the new mining camp, passed Lake Minchumina and got the same view of the mountain that I have described in this chapter. See *TEN THOUSAND MILES WITH A DOG SLED* by Hudson Stuck, Charles Scribner's Sons, 1914, p. 305. Archdeacon Stuck later (in 1913) climbed the mountain itself, and has given an eloquent account of his achievement, (*THE ASCENT OF DENALI*, by Hudson Stuck, Charles Scribner's Sons, 1914). I am in entire accord with the views expressed by the author in his preface to that book.

Fork of the Kuskokwim, which they call Tichinik. The lowest branch of the Kantishna is called the Toklat. The stream now marked on the government map published in 1916 as "Birch Creek" was known to the Indians as Nutchitalichaket. The one that flows into the lake at the outlet from the direction of Mount Denali and which does not appear on any map except our own, they called Kwalana, and the stream that enters the lake at its upper end they called Tonzolana.

At the same time that I offer the foregoing frank criticism of geographers and map makers in the matter of names, I wish to record the grateful feelings which I am sure everyone will share with me that the same maps that give the names of McKinley and Foraker preserve such Indian names as Minchumina, Kantishna and Tanana. If this happy method could be more generally followed in making the maps of country newly explored I believe that no loss would result and something would be gained, something for which posterity might perhaps be grateful.

At the end of six days in camp we felt completely rested. In the meantime, we had turned over in our minds our next course of action and exchanged ideas on this important subject. The thought had gradually come to each of us inde-

pendently that this would be a capital place to spend the remainder of the summer and the following winter. When the idea was first mentioned we found that the same thought had been taking form in both our minds since the day we arrived at the lake. Back of my own thought was the fascination of the wilderness and the desire for further adventure, and coupled with this was a very natural desire to pursue further a knowledge of the Indians who live on Lake Minchumina and who would not return from the hunting grounds till winter. By spending the winter with them I could undoubtedly procure a collection that would admirably illustrate the arts and industries and the various activities of the original inhabitants of this part of the continent, and I could learn a great deal of their language, their habits of thought and their general conduct of life. To make such a study would require spending the winter with the Indians, when men who live by their hunting have time to talk and when their legends and myths come to them and may be told.

We got so far in this plan that we thought we would spend the rest of the summer and as much more time as necessary in climbing Mount Denali, which at that time had never been climbed.

Then, unfortunately, came reflection upon my part. I remembered that I was expected at my post of duty in November, and it was borne in upon my mind that though I might not need civilization just then, it was clear that civilization had certain claims upon me. Moreover, it would be impossible to send word out to explain our non-appearance, and this would certainly cause uneasiness among our friends. We finally decided to proceed upon our journey.

With many regrets, we broke our camp on Lake Minchumina, where we had spent six happy days, growing lazy and faring sumptuously on game and fish. And this reminds me that in the clear water of the lake, unlike the rivers on which we had spent so much time, we caught fish in abundance, white fish and grayling, both of excellent flavor. It was only necessary to throw out a hook with spoon bait in front of the camp and we had in a few seconds one or the other of these good sized fish.

CHAPTER V

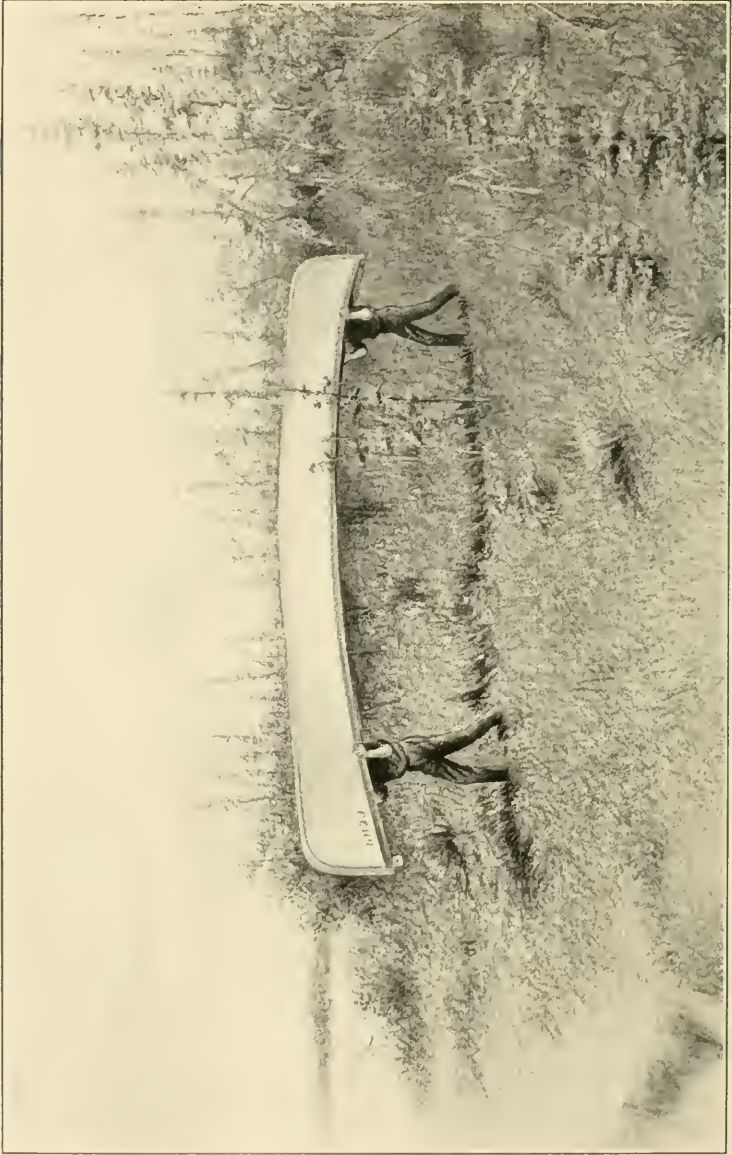
NIGGERHEAD AND MUSKEG

On August the first we started for the head of the portage, having bargained with the Indians to guide and help us transport our canoe and outfit across. In their two birchbark canoes they led the way up the lake and we all landed on a rather steep bank where we could see no sign of a trail. The ground was fairly open though very rough and encumbered with a low scrub growth of spruce. We mustered, besides our two selves, the two Indians and seven dogs. When the animals discovered that they were to be put to work carrying packs, their efforts to escape and their loud protests after they were caught, made one of the most lively sights I have ever seen. When the packs had been once adjusted to their backs Indian fashion, however, they trotted off quietly enough after their masters, but were always coming to grief by getting tangled on bushes and snags and making their trouble known in a most vociferous way till they were set free.

After dividing our outfit, each one of us being

provided with a pack, we found that we could carry everything at once except one pack and the canoe. These we left for a back trip. In this way we walked two miles and came to a small lake of which the Indian name is Chilko-gamina, perhaps a half mile across, with a small stream running into it. Here we made camp and prepared to pass the night. While my brother superintended these arrangements, I returned with one of the Indians to fetch the one pack we had left, for I did not entirely trust the native alone. When we had fed ourselves and the dogs we turned in, feeling that we were fortunate in having the two Indians to help us over a portage which proved rough and hard going at best, and which in places was so boggy that with our heavy packs we sank nearly to our knees in a kind of slushy mixture of moss, roots of vegetation and icy water. To be more brief as well as technically accurate, we found that the trail consisted of niggerhead and muskeg.

On low flat ground such as occurred at intervals on this portage the moss often takes the form of rounded tufts which soak up and hold water exactly like so many sponges and form an irregular surface which is so soft and saturated with water that one sinks deep at every step in



THE END OF THE TEN MILE PORTAGE

the oozy mass. This is what is called nigger-head and muskeg in the language of the North. Muskeg is the Ojibway Indian word for a swamp. The other word explains itself.

When we woke in the morning we found that the Indians had decamped. There was nothing to be done, so we consigned Luke and John to a place that they must have heard of at the Mission (but which does not appear on any map of Alaska), and prepared to do all the portaging ourselves.

While we were eating our breakfast, a disturbing thought assailed us. Had those rascally apostles stolen our canoe? We washed up the dishes, fastened up the tent door and walked back the two miles to the landing place. There was the canoe exactly as we had left it and no sign of the Indians. Turning the canoe bottom up and crouching under the thwarts, we had no great difficulty in getting into an upright position, each man with a thwart across his shoulders. In this way we carried our canoe over the soft, wet ground (I mean the niggerhead and muskeg) to the pond where we had made our last camp. We found that we had to put down our load and rest about every quarter of a mile, and we also found that the thwarts that supported the load

on our shoulders cut unmercifully into our necks. I have already said that the weight of the canoe when dry, was 180 pounds. At this time it must have been a good deal heavier.

To make this weight ride easier we afterwards cut out a semi-circular piece from the center of each of the two end thwarts so that they resembled yokes to fit our necks. Taking two heavy woolen undershirts, we cut them up and rolled them into two cushions which we fastened round the edges of the yoke shaped thwarts where they rested on our shoulders. With this device we found that we could support the weight of the canoe with entire comfort.

We still had the small lake to cross and we had to find the trail, if there was one, on the opposite side. Launching the canoe in the tiny creek and taking two light packs, we were soon across the pond, which was strewn with a kind of yellow pond lily. Following the margin we searched for signs that would indicate a trail and soon found a place where the rank grass growing on the bank had been trodden down and a few steps on shore brought us into a distinct Indian trail. We followed this for four miles, carrying the two light packs, and satisfied ourselves that it was the trail across the divide

and that it led directly to the source of the Kuskokwim.

We had as yet seen no signs of any white men having passed that way and we had almost concluded that the Indians had invented the story of the two white men having preceded us ten days before our arrival. Indeed, their story seemed altogether improbable. We remembered that as we ascended the Kantishna we had seen no trace of white men having at any time preceded us above the deserted town where we had spent three days. We had seen no camping place and no signs except the signs that Indians leave to be read as messages by other Indians who may pass, such as a split twig or an arrow fastened on a tree. The remains of a white man's fire can always be recognized, and on the upper Kantishna we had seen none.

However, we had not gone far on the trail across the divide before we began to see unmistakable signs that white men had preceded us there. There were marks on the ground where some heavy object had been dragged along and we saw an improvised roller that had been left behind. These indications showed that men had dragged a poling boat over that ground not very long before.

Leaving our packs and returning to camp, we soon brought the outfit across the pond and pitched our tent again at the end of the trail. Then we made four packs consisting of everything except the tent, sleeping outfit, cooking outfit and some provisions for supper and breakfast. Each of these four packs weighed about 95 pounds, and we carried them that evening a distance of one and a half miles to a ridge of higher and dryer ground, making two trips and returning to camp to sleep.

Next morning, August 4th, we made up the tent, blankets, grub box, tarpaulin and cooking outfit into two packs weighing 95 pounds each and packed these forward four miles to a place where we had left the first two packs on the previous day. This first cache was situated on a rising ground or low hill. The first mile was soft ground consisting of niggerhead and muskeg. Then came a low hill, then some soft ground and water, then another low hill followed by soft ground and lastly the low hill on the near side of which we made our first cache. This meant making a back trip of four miles and carrying the canoe that distance and making two back trips of two and a half miles for the four packs that we had carried a short distance on the third.

To get water for drinking and cooking purposes during these days on the portage we dug water holes beside the trail and cleared out old ones that the Indians had used, and these holes soon became filled with water, for the earth is everywhere saturated. A foot below the surface the ground is frozen solid and this frozen condition extends to great depths, a hundred feet or more; consequently the rain water is not absorbed, but lies on the surface where it is soaked up and held by the thick moss and matted roots of vegetation, exactly as a sponge holds water.

There was a feature of the vegetation on the low hills that deserves special mention for the delight we had in it. Wide stretches were covered with a luxuriant growth of blueberry bushes, and as it was the season when they were ripe and our appetites for fresh fruit had become very keen, we stopped on each back trip to eat blueberries. We found them delicious and certainly never enjoyed fruit so much. We gathered a pailful to add to our stock of provisions, a very positive improvement in our bill of fare which was becoming more and more luxurious, with fat canvasbacks, geese, white fish, pickerel and now fresh fruit. This was a great improvement on the boiled beans and salt bacon with which we

served ourselves at every meal for twenty days of the hardest work of the entire trip. Let me say, however, that we enjoyed the beans and bacon.

At the end of August 5th, after the day's work that I have described, we had our camp pitched a distance of four miles from the pond and six and a half miles from the lake and everything had been carried to that point and made snug. How much of the portage remained we were still in doubt, but we knew that it must have an end, and we knew that we could keep on carrying till we had reached the end of it.

To satisfy our curiosity, however, we set out on the morning of the sixth to find how far we were from the Kuskokwim. We had gone about two miles when we came suddenly upon a big poling boat lying in the trail, an outfit piled beside it, a tent and two white men getting their breakfast. We had no occasion to be surprised, because, as I have explained, we had found their trail, but if I said the two men were surprised, I would be using very mild language.

Absolutely secure in their feeling that there were no human beings about except themselves, and that they were alone and safe from intrusion, they, like ourselves, were keeping no lookout and

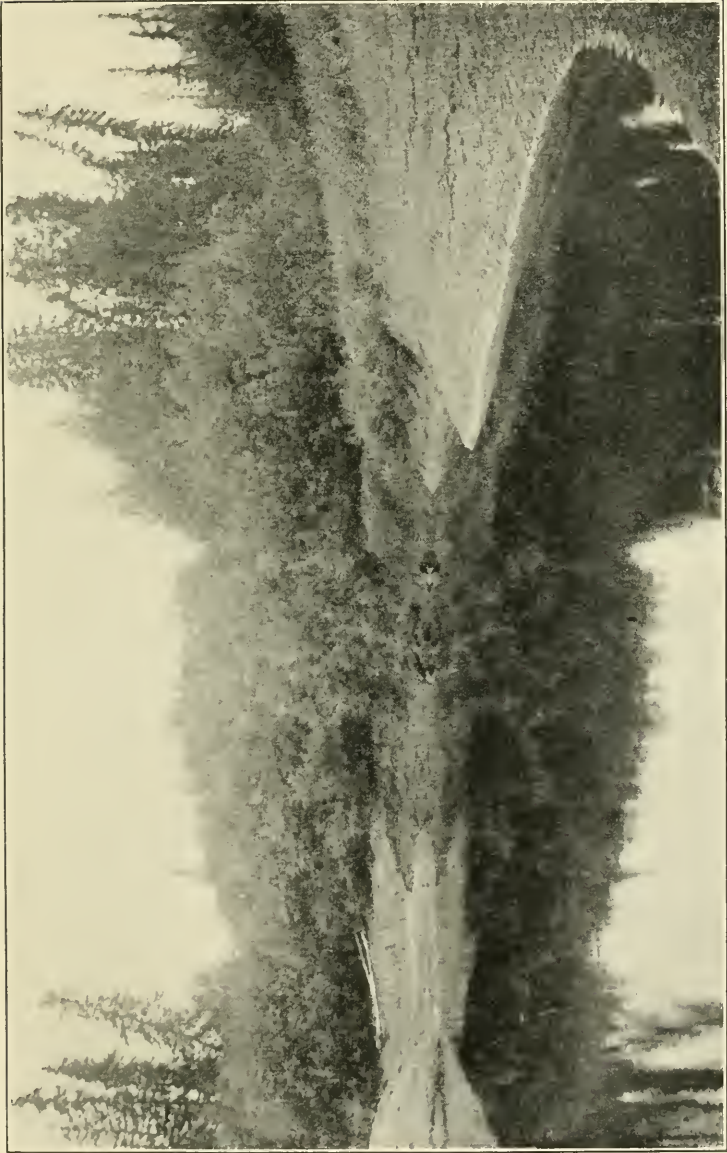
we came quite close before we were observed. One was about to enter the tent and had his back towards us; the other was standing over the fire with a frying pan, when a twig snapped under our feet. Looking up from his anticipation of fried bacon, and seeing us fifteen yards away, his thoughts were so violently diverted that he dropped his frying pan, made a dive towards the tent door, where he butted with a shout into his companion's back. The latter inquired in language of great vigor what he thought he was doing, but in the middle of a well rounded period, he caught sight of us and the sentence was never finished; the two then suddenly bolted together into the tent, where they remained looking us over through the narrow door. In this position we presently engaged them in conversation and in a few minutes they had recovered from the shock of their surprise.

They had reconnoitred the whole portage and told us it was only two miles more to the Kusko-wim. These two men were on their way to what was known as the South Fork on a prospecting trip and were prepared to spend two years up there in the wilds shut off completely from human communication of any kind. They were typical of the prospector breed to whom

the "great strike" is always ahead and hidden somewhere in the unknown.

On the same day we packed all but the tent, cooking outfit and sleeping outfit and canoe down to the banks of the Kuskokwim which, at this point near its source, is a small stream of clear water with high and steep banks.

On the seventh of August we carried the canoe over the last four miles of the portage, returned and packed the tent and sleeping outfit and cooking outfit and made camp beside the Kuskokwim. On each trip during these two days we passed and repassed the two prospectors laboriously hauling their heavy boat on rollers over the rough ground. On several points they showed a great deal of interest: they were curious and rather incredulous about the canoe; for, after lifting it some half dozen times, they estimated that it weighed well over two hundred pounds, perhaps as much as two hundred and fifty; they wondered that anyone should have undertaken the trip at all in a canoe, for the poling boat was accepted as the one thing fit for the conditions of travel presented by Alaskan rivers. They seemed all at once, and for the first time, to doubt the truth and wisdom of that idea and paid us the compliment of saying as we left them behind



THE UPPER KUSOKWIM OR TICHINIK AT THE PORTAGE

on the trail that we had taught them something new.

The portage between Lake Minchumina and the head of the Kuskokwim is about ten and a half miles according to our careful calculation, for we had no means of measuring distance. We were altogether seven days on this portage from August first to August seventh, inclusive. We made our outfit into seven packs averaging ninety-five pounds each. As to the weight of the canoe, I am inclined to think that the men were right and that at the time its weight was scarcely less than 200 pounds. I say this because when weighed it was perfectly dry, whereas at the portage its woodwork had been absorbing water since we started, and in its saturated condition must have been much heavier than its dry weight of 180 pounds. In carrying the canoe we set it down and rested about every quarter of a mile. In picking it up we turned it on its edge, crouched on our knees with our shoulders to the thwarts, let it tip towards us as far as possible until at a signal we were able to rise together and to balance it on our shoulders at the same time.

At 8.30 o'clock on the morning of the 8th we had the canoe loaded and were ready to start down the Kuskokwim, with no information about it

except that there was a branch known to prospectors as the South Fork and called by the Indians the Istna coming in from the south, a few days' journey down. It was for this river that the two prospectors of the portage were heading.

CHAPTER VI

ON THE UPPER KUSKOKWIM

We had no sooner started down the Kuskokwim than the feeling was borne in upon us that we were in virgin territory, where man, at least civilized man, and nature were still strangers. Certainly man was an unfamiliar object to the birds and beasts, and especially to the game which had not yet learned that his presence was a signal for alarm. Ducks and geese appeared in great numbers and even after we had shot, appeared to remain so tame that we could approach to within a few yards of them. To anyone who knows the habits of the wild goose, this must seem odd. Now these geese (the old birds) had migrated from regions further south, where presumably they were acquainted with men and with hunters and sportsmen. They had gone to the far North to breed. The season's young were now full grown, fat and in perfect condition. It would seem natural to suppose that the experience of the old birds in inhabited countries would serve them also in uninhabited territory and that consequently they

would take alarm at the sight of men. It seems, however, that the instinctive fear of man and the gun, a habit acquired under one set of conditions, is in abeyance where the same conditions do not prevail and that the same lessons have to be learned again.

It was not many hours after we had started that we had shot five geese from the canoe. We could easily have shot more if we had cared to do so.

At noon we lunched on a sand-bar in a shower of rain. We were again in the spruce timber. In the afternoon a rainstorm came up with very heavy black clouds and the downpour was so great that it threatened to fill the canoe and we had to bail frequently. During the progress of the storm we heard the roar of rapids ahead and rounding a bend we came in sight of the broken water, a longish rapid without any apparent obstruction to our passage, though we could not tell how near the rocks might be to the broken surface. We headed into midstream and as we struck the rapids there occurred a very bewildering and for the moment a startling thing. As we shot down with the noise and rush of the water about us, there broke in a deep rumble accompanied by a sharp crackling. All these noises,

mingling together, produced a most indescribable effect as in the storm and confusion we shot down into the smooth water below. It was only after we were in comparative quiet that we realized that the loud rumbling and crashing noise was a peal of thunder. We had not heard thunder since the 26th of July and we did not hear it again during that summer.

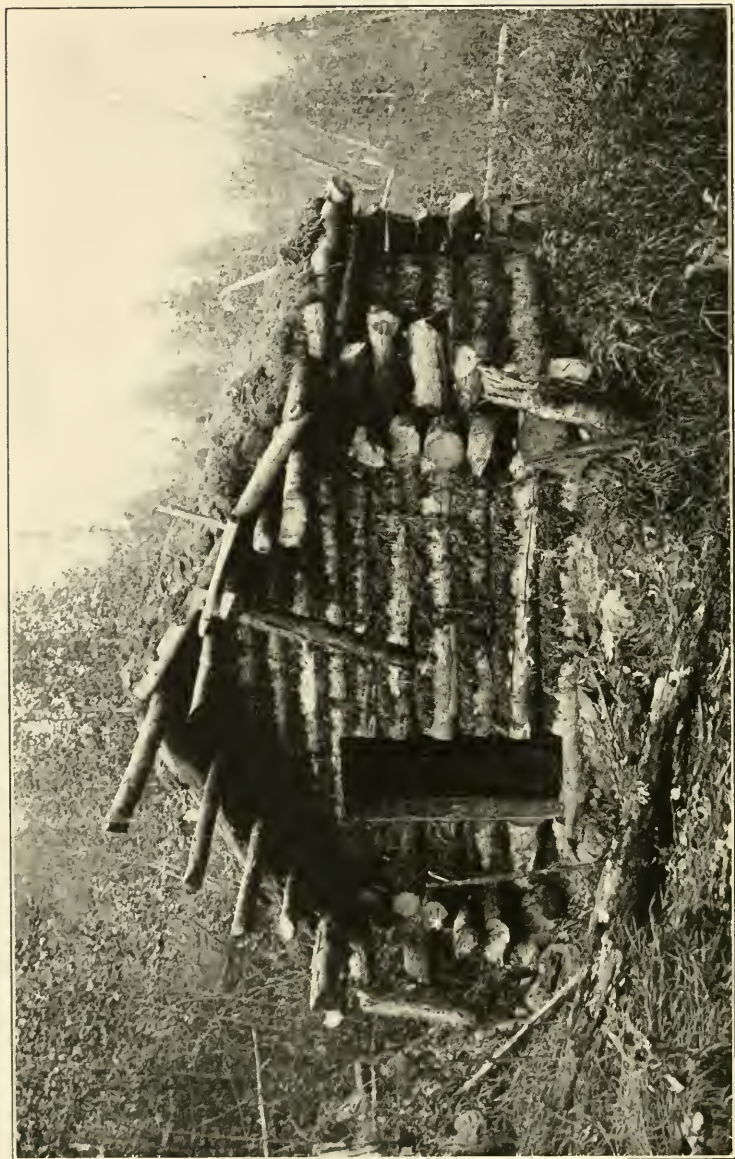
Two more rapids were passed and the rain still continued in torrents. Suddenly to our surprise we saw ahead a log cabin on a high bank and, heading towards it, we found it empty and deserted, but quite dry and snug. Soon we were installed under this accidental roof and very grateful for its unexpected shelter.

The interior of the cabin was about ten feet by twelve. It was new, that is to say, it had been built the previous summer and had been occupied during the winter by a trapper, who had evidently made his way across from the Yukon to try his luck in the new hunting ground. He had evidently set his line of traps, tended them all winter, with what luck I cannot say, and in the spring had gone out the way he came, packing his furs along with him.

Having taken possession, we set about to make ourselves comfortable and to that end made

use of the resources of the place. These resources consisted of an empty Standard Oil can and about a dozen empty butter tins. Everyone knows what a Standard Oil can looks like. It is a familiar sight in every part of the world. The traveler cannot escape it. He will find it in the Amazon Jungle, on the Andean heights, in the heart of Africa, in the Soudan, on the Himalayan slopes, the Russian steppes. He will find it among people of every complexion, in every degree of civilization, doing duty in many different ways. I have myself seen it serving as a water bucket, a milk can, a flower pot, a food dish, a tom tom, a liquid measure, a shopping bag, a trunk, a mouse trap, a slop jar, a peddler's box, a medicine man's charm and a variety of uses besides. It seemed, therefore, quite natural that we should find it in the uninhabited forests of Alaska and that we should put it to a new use, for which I am now prepared to recommend it.

The builder of the cabin undoubtedly had brought with him the portable article known as the Yukon stove and had taken it away with him. In one corner of the roof there was a small hole where he had placed his stove pipe. In the course of making ourselves at home in our dripping clothes, I called Mac's attention to this hole



THE DESERTED CABIN ON THE TICHINNIK

in the roof and remarked that, having the hole, all we needed was a stove and stove pipe. In a little while we had these also, for we manufactured the one out of the Standard Oil can and the other out of the butter tins.

Next day the rain still fell steadily but was much less heavy. We decided to remain at home. We made a feast. Outside the door of the cabin we set up a piece of canvas to shed the rain and this was our kitchen. A proper camp fire was carefully arranged with ample back logs to hold and reflect the heat. A fine fat goose was plucked and dressed and stuffed and trussed and it was as neat a job as ever was performed. That goose was cooked on a spit turned in front of the fire and basted in the drippings of its own fat. When it was done it was fit for any table whatever. Blueberries stewed in sugar was our dessert; we had plenty of coffee and excellent tobacco. I have never enjoyed a banquet so much in my life.

All the time we kept the stove red hot to dry out the cabin and drive away the damp chill that was already beginning to make itself felt after the heavy rain.

In fact, this thunderstorm marked the turn of the season and from that day onwards it con-

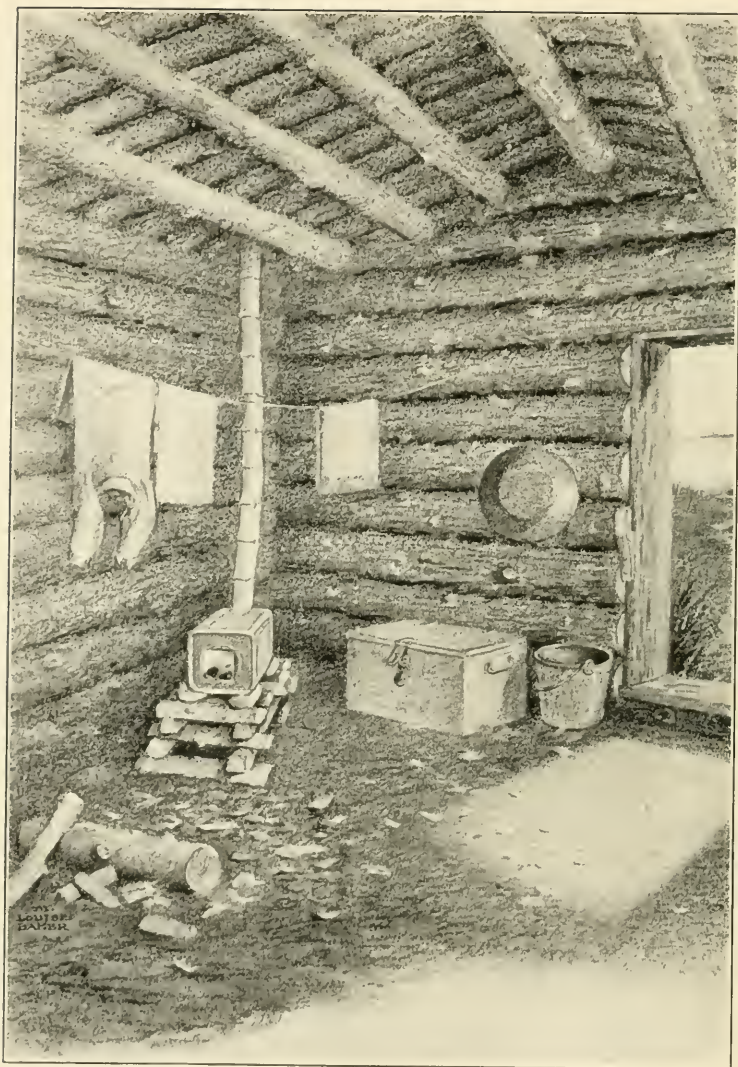
tinued to grow cooler. The vegetation on the banks already exhibited the bright autumn tints, brilliant reds and yellows predominating. The mosquitoes disappeared and though for a short time they were replaced by a very annoying black gnat, it was a great relief.

On the 10th of August, the weather being fine, we left our temporary lodgings in the log cabin and on that day we passed four more rapids.

On the day following we descended a very beautiful stretch of river; the water was slack and dark and placid and reflected the sloping banks and the thick growth of spruce timber that made an uninterrupted fringe on either side. The timber gradually grew larger as we descended and many of the tall trees were two feet in diameter near the base. The Kuskokwim runs a very tortuous course, turning about and winding and forming many wide loops and bends.

In the afternoon we came to the Indian encampment for which we had been on the lookout. It was on the left bank and consisted of three fairly large brush shelters, a summer encampment.

The Indians at Minchumina had prepared us not to expect to find many people at this camp until the hunting season was over. We found just one very ancient Indian. He was the only



IN THE DESERTED CABIN ON THE TICHINIK

Indian I ever saw anywhere who exhibited surprise and excitement, as he did at our appearance. He had evidently never seen white men before and was clearly afraid. We could make little of him and after making him some slight presents we continued our journey.

Some time in the afternoon of the second day after leaving the old Indian we caught a regular succession of sharp sounds, like the rattle of oars in the rowlocks. Something and probably somebody was approaching round the bend. Then we heard voices quite near and distinct and in a moment more we came upon two white men in two boats. With their backs to us as they worked their oars, they did not see us till we glided noiselessly to within ten yards of them and spoke. Both were trappers and each was in a boat that he had built himself. They had come in different directions out of the wilderness and had met accidentally on the Kuskokwim two days before. One had just come down the South Fork, where he had spent three years absolutely alone. During that time he had not seen a human being, Indian or white man. The other had spent the winter alone trapping on the Tacotna, but in the spring some prospectors had appeared and the region no longer suited him. He resolved

to move to where the solitudes were still secure from the unwelcome intrusion of his fellow men. Propelling his boat day after day up the Kuskokwim, he met the man from the South Fork coming down. The latter was oblivious of the presence of white men on the lower Kuskokwim and when he learned from the man from the Tacotna that there were prospectors in the country he decided that he was going in the wrong direction. In a few minutes the two men had entered into a partnership and decided to ascend to the head of the Kuskokwim, build a cabin and try their luck trapping together during the following winter. We drew our canoe alongside the two boats and there we sat talking for three-quarters of an hour. They asked us what month it was and what day of the month. They did not ask us the day of the week. They were particularly anxious to know what the upper river and the country about it were like and inquired in what direction we had come. What we told them interested them very much. Their own stories were told very simply and laconically. They never asked us for news of the outside world. The subject was never mentioned once and they gave us no message for friends or kindred. We gave them some tobacco and flour, they gave

us some fresh fish and we parted. Like almost all the men one meets alone in the wilds of the North, they were simple, well spoken, quiet mannered and kindly men. I cannot help wondering what luck they had and what befell them afterwards. It is not likely that either of them will ever read these lines and yet in a world like this, such a thing is not impossible. We never knew their names, for we did not inquire and they did not ask ours. It did not occur to any of us, for names meant nothing in such circumstances.

Half an hour after leaving the two trappers we came to a large stream which comes in on the left and brings a great deal of silt and has a swift current. This is the stream which the Indians call Totzona, and which I first heard of from Chief Henry at Tanana in 1905.

The days were now growing rapidly shorter and the nights longer and darker. The weather became clear and cold. When we awoke each morning we found a beautiful hoar frost over everything. Turning out became a brisk exercise in the clear, crisp air. Mosquitoes and black flies had all gone and there was nothing to mar our comfort.

One day we had a curious experience with a

mirage. Rounding a bend we saw, several miles ahead, a large city on the left bank. It had many houses and tall buildings and cathedral spires. Even more astonishing, two large steamers, evidently men-of-war (for their hulls were black), lay in mid-stream. Now we knew very well that there could be no such city on the Kuskokwim and we knew that no man-of-war had entered that river. Yet there was the city and there were the men-of-war and we had them before us long enough to observe them well before they seemed to lose their substantial shape and then suddenly we saw nothing but a high bank with a solitary hut on it and a line of dead timber extending along the bluff. In mid-stream were two Indians in their birchbark canoes, paddling leisurely along. These were the elements out of which the mirage had been in some way constructed. The Indians told us that their village was a short distance down stream.

On the eighth day after leaving the portage we passed the East Fork (Chedotlotna) and later, on the same day, we passed the two outlets of the South Fork (Istna), which are so far apart that we were three hours after passing the upper before we arrived at the lower outlet.

The Upper Kuskokwim, the North Fork, the

Tichininik of the Minkhotana Indians, is clear dark water, in places swift and in other places slack. The Chedotlotna and the Istna are muddy water, carrying in suspension a heavy charge of silt. From this point in our journey, therefore, the river was muddy and of a grayish brown color. It was by the Istna that Spurr and Post reached the Kuskokwim from Cook's Inlet in 1898 when they followed the river to its mouth. Here we met another Indian in a canoe. He was dressed in caribou skins and carried a bow and arrows. He told us by signs that a little further down we would find other Indians.

It was about this time that we were brought into touch with a tragedy of the wilds, which, though I find no reference to it in my notes, is still fresh in my memory. I think it was opposite the mouth of the Istna that we saw a small log cabin on the right bank and what particularly attracted our attention was a tall pole standing on the shore with a tattered red rag fluttering at the top of it. We landed below this pole and found fastened to it, about five feet from the ground, a small wooden tablet with some writing in pencil nearly obliterated by the weather. We entered the cabin a few yards away and at once recognized from the smell and other grue-

some signs that death and decay had but recently occupied that lonely dwelling. We had no difficulty in reading the story. A solitary trapper had built the cabin during the previous summer and in the winter when the thermometer ranged from thirty to sixty degrees below he had sickened. When he realized his condition he erected the pole with the red rag as a signal, on the slender chance of someone passing on the river. He kept a diary during these days and as he grew weaker and weaker and finally unable to rise, having barricaded the door to keep out the wolves, he made his entries day by day. When he was found his diary lay beside him on the couch where he died.

In the spring when the ice moved out of the river, an Indian passing in his canoe, discovered the tragedy and made haste down to the Tacotna to report it to the white men there. He found at the new station Peter McGrath, who at once took a party of men and went up to investigate. They buried the body and the diary and other belongings were sent out to the United States District Court at Nome, with the exception of a fine old iron blade made by the Indians that was found in the cabin.

When we arrived at the mouth of the Tacotna

we met McGrath, a man whom I had known at Nome in 1905 and who was now United States Deputy Marshal for the new diggings on the Tacotna, or rather the Innoko. From him we learned all the details that I have just related. I tried later to obtain a copy of the dead man's diary, but was unable to do so. I unfortunately let several years go by before making the attempt, and it seemed to have been lost.

The night after we met the lone Indian we camped at the mouth of a large stream coming in on the left, where we found a small Indian encampment. The Indians called this river the Keklone and they said it had a branch called the Ishishna. They had little in the way of possessions and told us that the Indian villages were farther down the river.

On the second day after this we arrived at the mouth of the Tacotna, where, as we had been led to expect from the trappers, we found white men camped and a small trading post already established. This post had just been built. A prospector who had penetrated from the Yukon to the head of a stream called the Innoko reported the discovery of gold in its bed. This discovery was considered more accessible from the Kuskokwim than from the Yukon and

hence the invasion of the former river in the spring preceding our arrival, the establishment of the little post at the mouth of the Tacotna, and the consequent disgust of the trapper whom we had met up river seeking another retreat.



A WOMAN OF THE SIKMIUT

CHAPTER VII

THE VILLAGE LIFE

Although we had been looking for an Indian town ever since we launched our canoe on the Kuskokwim, and although the few Indians we met on that stream told us that their village was farther down, nevertheless, Sikmiut was a surprise to us. When we landed below the village we were met by a tall Indian who conducted us at once to the largest house, where we were met by another Indian nearly as tall as the first and we knew that we were in the presence of the chief. At no other point on our journey, either before or after, were we treated with so much attention or with any show of ceremony. There was an exchange of greetings and some talk which, though by no means easy, was facilitated by several fortunate circumstances. In the first place, every intelligent Indian has an instinctive understanding of dumb show, and this chief was a very intelligent Indian. In the second place, I found that I was not entirely unacquainted with the chief's language and he was not entirely unacquainted with ours. He had been down

the river to the Moravian Mission at its mouth and there had picked up a small English vocabulary. In a few minutes we were conducted to a house near that of the chief, which I believe also belonged to him or to one of his family who was absent with his own family. Our things were then carried up from the canoe and we were made at home.

The Sikmiut people we found more comely and better kept than any we had seen. The first thing that struck us was the diversity of physical type among the inhabitants of this village, for though the Tinneh features and stature stood out distinctly in a majority, there were many individuals in whom this type was greatly modified and there was a third class of individuals totally unlike the Tinneh in features and in stature and who represented an Eskimo element. The first class and the last were sharply distinguished.

The second fact by which we were struck was that our new friends spoke a language that was not Tinneh but Innuït and that corresponded closely to the language of the coast Eskimo. This I could recognize at once from the little knowledge of Eskimo that I had acquired during my visit to the Bering Sea coast in 1905. I now made good use of that small knowledge



THE BELLE OF THE SIKMIUT

and also of Father Francis Barnum's grammar and dictionary of the Innuït language. That admirable study of the language of the Eskimo on the Western Coast of Alaska was a very great help from this point in our journey onwards. It made communication with the natives vastly easier and constituted a basis for inquiry in many directions. In our efforts to communicate with the Indians up river and at the lake we had no such help, and besides, the Tinneh dialects are more difficult than the Innuït. Indeed, the latter is not only a very pleasant sounding language, but it is simple in structure and does not offer any difficulties to our pronunciation. It can be written perfectly well by means of our alphabet and when once learned it lends itself to a great variety of expression.

While the same may be true to a somewhat less extent of the Tinneh dialects, they are, I believe, more difficult to our ear and harder to speak correctly.

The name of the Sikmiut village itself is Innuït in form, for the ending "miut" is the usual suffix which means in that language, "the people of."

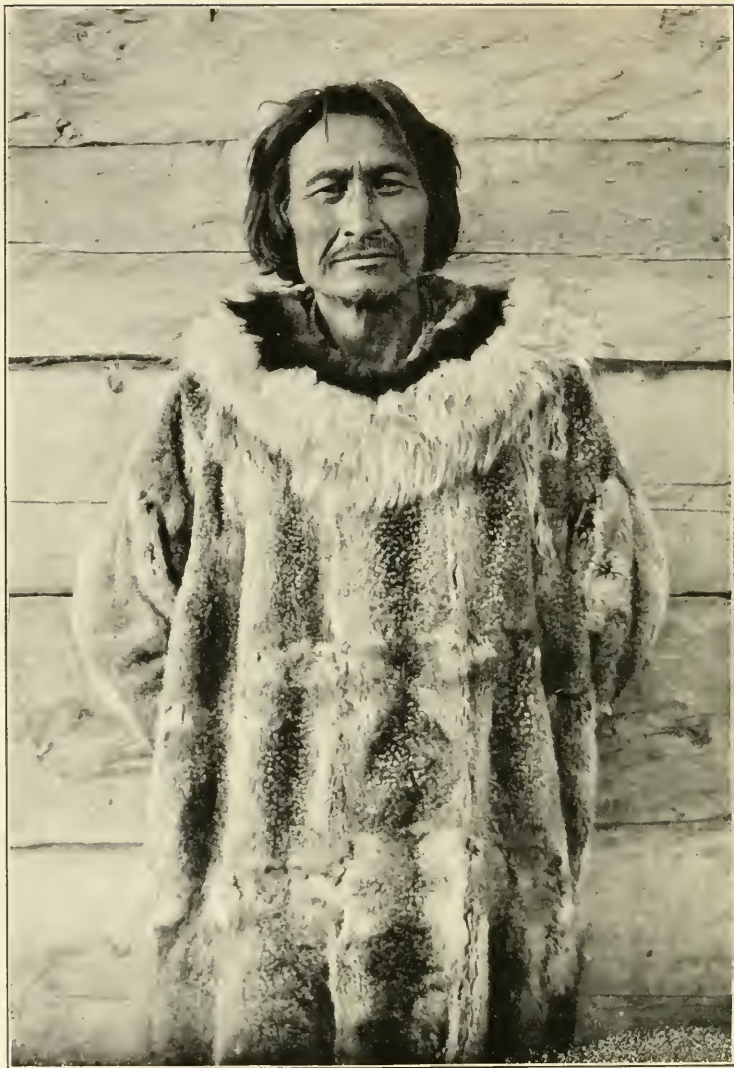
Many of the people were away hunting and I did not obtain a complete count of the population. I counted sixty men, women and children

and was informed that more than half the people were away. Putting various things together, I gathered that when everyone was at home there were about one hundred and fifty people in the village.

There were two chiefs at Sikmiut, a head chief whose rank was inherited and a second or sub-chief who was chosen by the first to be his lieutenant and deputy. (It was he that met us as we landed.) Both were men of ability and it was clear that they took their duties seriously and exercised their authority for the good of the community.

The head chief, as I have said, had visited the Moravian Mission at the mouth of the river and had seen and heard something of white men and their ways. The name Andrew had been bestowed upon him during his visit and he had adopted it in addition to the Indian name, after the Indian fashion of having several names. Indeed, I did not learn his Indian name, because it is not polite to inquire and it is a kind of information that Indians do not offer even to their most favored guests.

Similarly the chiefs of the Sikmiut never asked us our names, but they soon had names for us. To my brother, who asked about the big game,



THE SUB-CHIEF OF THE SIKMIUT

they gave the name Tuntuok and because I was inquiring about the past and the old traditions they called me Esantuk (The Old Times). These names stuck to us down to the mouth of the river.

Although he had visited the Mission, the Sikmiut chief had not been converted or baptized and he had not been greatly impressed by what he had seen and heard. The teaching, he said, was good, but it was not better than the things that his people had taught and practiced always. He had encountered traders on his journeys down river and lately white people had made their appearance in his neighborhood on their way to the Tacotna. Reports had come to him, moreover, from the Yukon and from other parts of the country touching the doings of the white men. From his observations and from reports, he was convinced that the presence of the white men in Alaska was an evil and that they deliberately practiced evil. That being the case, what did their good teaching matter?

Nothing can be more unfortunate and more sad than the fact that the representatives of the superior race that first become known to the native peoples of this continent are usually far inferior to these natives in every way. Sikmiut

had just arrived at that unfortunate period in its history, for it lay on the route of the miners on their way up to the Tacotna, and the little stampede of the early summer was having its effect. On this subject the chief was very anxious and made his anxiety known to us with entire frankness but without bitterness. He resented the sudden appearance of the white man on the river. Some of his people had not yet seen people of our race and none wished to see them; but already some of the young men had gone astray, strong drink had made its appearance and sickness had increased during the summer; there was general discontent and he foresaw the destruction of his people in a few years.

The houses of the Sikmiut were built of logs after the manner of Tinneh houses of the far interior. Two of the houses had glass panes in the windows. The floors were on the level of the ground and never sunken, as are the Eskimo houses. On the other hand, the arrangement of the village was in the Eskimo style, with a kozgee or public hall occupying the central position. This kozgee was of relatively small size; it was not built underground and was not used for the sweat baths. It was used as a meeting place and a council chamber, but it was not large



THE SON OF THE SUB-CHIEF OF THE SIKMIUT

enough to hold the entire population and the dances and festivals which took place in it were not on a large scale. The unmarried men sometimes slept in the kozgee, but this was not the uniform rule. In addition to the kozgee the Sikmiut village had a bath-house (Mukeiawik) where the men took their sweat baths.

Although the women held their own and had a good deal to say, the Sikmiut man was master in his own house. His wife was by no means so subservient as is said to be the case among some of the Tinneh tribes, but she was not possessed of so much authority as the Eskimo wife on the coast.

In respect of the costume, the Eskimo style prevailed almost, but not quite, exclusively, for here and there were to be seen surviving touches that could be traced to the Tinneh tradition, like the headdress sometimes worn by the women. In their material equipment and their possessions generally the Sikmiut showed a mixture of Indian and Eskimo culture. The birchbark dishes of the Indian were in common use and so were the wooden kantuks, and both were manufactured with great perfection at Sikmiut. The bows were those of the interior and unlike the stout sinew backed bows of the Eskimo.

The snowshoes were also of Tinneh pattern. The arrows were tipped with bone or with wood. The wooden dishes were of two kinds: those carved from a single piece and those made from two pieces, and both were admirably made. The larger and higher ones are made of two pieces, a flat bottom combined with vertical sides, consisting of a single piece of uniform thickness, bent round and spliced where the ends come together. These vessels are either oval or circular in shape and vary in size from drinking cups to vessels of about five gallons capacity. They are as watertight as any cask or firkin and are as good examples of cooperage as one could see anywhere. The birchbark vessels are also very beautifully and neatly made. One type is flat with sloping sides and the other type is high with straight sides. The latter is sometimes provided with a handle. The Sikmiut make no pottery and no baskets.

The clothing of the Sikmiut is rich in material and workmanship. The skins of animals furnish the materials and they are tanned with the fur and rendered beautifully soft and pliable by an application of the brains of animals and by rubbing. The furs used include most of the furbearing animals of Alaska. The squirrel, marmot, arctic



THE DAUGHTER OF THE SUB-CHIEF OF THE SIKMIUT

hare, muskrat, mink, beaver, otter, marten, wolf, wolverine, caribou and reindeer are employed in various ways in the manufacture of clothing. The arctic hare is used for undergarments and for lining about the necks and hoods of women's coats. The squirrel, muskrat and marmot are used for plain working garments of men and women. The wolverine and wolf skins are used chiefly for trimmings, the skins of the caribou are used for making the heavier and rougher garments, those of the reindeer are cut and let into the dark furs for decorative effect. Very pretty dresses for women and little girls are also made of skins of the young reindeer. For some reason which I did not learn, fox skins are not used for clothing. Neither the red fox nor the white fox nor any of the other varieties of fox, so much prized by our people, is worn by the Sikmiut or by any people of Alaska so far as I could learn.

One of the handsomest dresses that I saw was one worn occasionally by the belle of the village, a very comely girl of about sixteen years, still unmarried, and very well aware of her fresh beauty. Her ample dress, which she had made herself and of which she was justly proud, reached to her ankles and was made of the finest selected

mink skins with pieces of light colored reindeer skin let in. The trimmings were wolf, wolverine and arctic hare. I noticed that this very attractive young lady was less reluctant to be photographed than were some of the older women whose dresses were not so new.

It was a genuine pleasure to see the well cared for children of the Sikmiut, whose tasteful and comfortable clothing was an expression of the pride and affection of the parents. The little son and daughter of the sub-chief were in all respects the children of nobility, a perfect little lady and gentleman of seven and five. Other children ran away from us and were too shy to be photographed, but these two little aristocrats, though not bold or forward, were very self possessed and dignified. The sons and daughters of the head chief were already grown men and women with houses of their own.

My efforts to draw from Chief Andrew some of his personal views and also the customs and beliefs of his people were well understood by him and met with a very intelligent response. A word or two selected from the dictionary, and helped out by pantomime, would often elicit a reply which, in a few well chosen words or phrases, conveyed the information desired and reduced



A MAN OF THE SIKMIUT. A MIXED ESKIMO AND INDIAN TYPE

to a minimum the use of the dictionary. Besides, the chief brought to bear the entire resources of his English vocabulary picked up at the Mission, and in this way we were in very frequent communication with him.

We stayed two days and a half among the Sikmiut. We would have liked to stay long enough to cultivate a closer acquaintance with them and to become familiar with their customs, but we had an uncertain journey ahead, the summer was well spent and we had to be content with what we had seen and learned, hoping some day to return.

On the 24th of August, at one o'clock, we left Sikmiut and a little further down we stopped to cut a mast for the first time and to rig our sail. The river was wide and while the wind held we made good time before it.

On the 26th we passed the site of the old Russian station at Kolmakoff. The story of this post is the story of Russian enterprise in this part of the territory. Ivan Lukeén was born in California of Russian and Spanish parentage, and was educated at Sitka. In 1832, while attached to the fort at Nushagak on Bristol Bay, he made a journey up the Nushagak River, crossed a portage to the source of the Holiknuk

and explored that river to its confluence with the Kuskokwim. He then floated down the latter river for a distance of ninety miles and built on the site at which we had now arrived a small fort surrounded by a quadrangular stockade. There he remained for several years in solitary rulership, adopting the life and language of the Kuskwogamiut.

In 1835 Glasunoff explored the mouth of the river and visited Lukeén. The fort was then strengthened and called a redoubt. In 1841 it was partly burnt by the natives and as a result the commander of Fort Nushagak, Kolmakoff by name, went up to rebuild it. From that time forward it became known as Kolmakoff or Kolmakofski. In 1866 the redoubt was dismantled. Like all such establishments of the Russians, Kolmakoff was during the years from 1836 till 1866 a trading center, visited by native traders who brought their furs. It appears to have been a meeting place for the Tinneh Indians from the interior and the Eskimo from below.

On the 27th we stopped for some hours at the native village of Ohagamiut. We were now among the Eskimo in their own undisputed territory, where their customs were unaffected by their neighbors. Later on the same day we

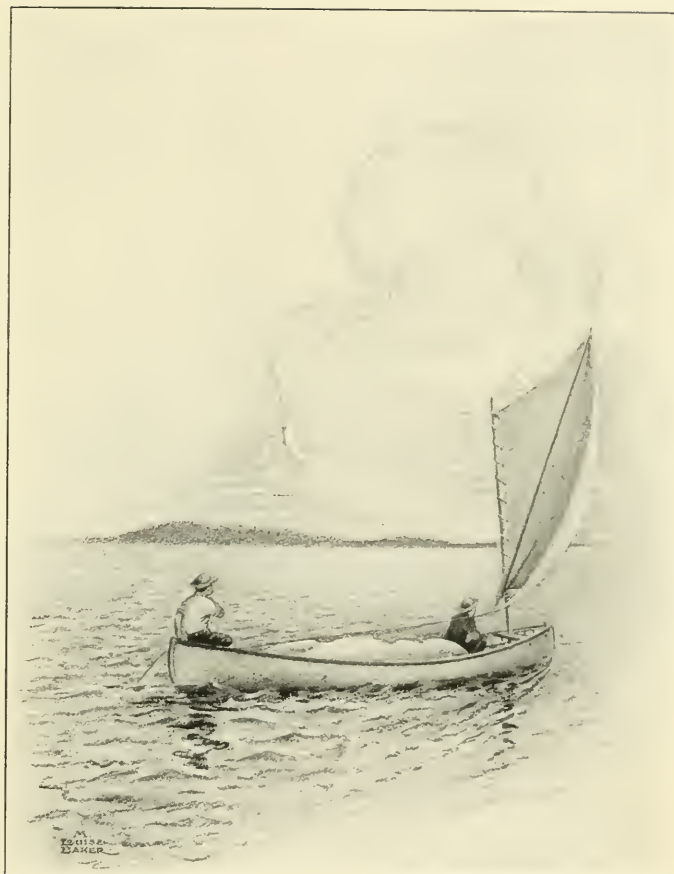
passed the Yukon portage. At this point the great bend in the Kuskokwim towards the north brings it to within twenty miles of the Yukon. The country between is flat and occupied by a chain of small lakes. The missionaries and others visiting the lower Kuskokwim, as well as the natives, have been accustomed to use this portage. It had always been used from the most ancient times by the aboriginal inhabitants in going to and fro between the two great rivers. Immediately below this point the Kuskokwim swings to the south again and enters the sea four hundred miles from the mouth of the Yukon. On the same day that we passed the portage we made camp one mile below the village of Ogovik, which is ten miles below the portage. We spent the remainder of the day and half of the next in the village. Here the Eskimo features and customs were strongly marked. The inhabitants of Ohagamiut and Ogovik are pure Eskimo.

At noon on the 28th we started out in a high wind with our sprit sail set. The water was rough and choppy with heavy waves washing the banks, and we scudded before the wind till seven o'clock. The wind had been freshening and threatened to blow a gale. The banks were

high and sheer and we were watching anxiously for a possible landing place and a camping ground. On our way we passed a mountain whose steep slope was washed by the river at its base. Later, by good luck, we spied a break in the right bank where a footing was afforded at the water's edge and a means of ascent presented itself.

By the time we had our tent pitched among the timber, our fire going and our bed of spruce boughs prepared, it was already dark. Before we had finished supper and made things snug, the wind was blowing a gale. It swept the spruce timber with a great roar. It was a cold, damp wind and our fire seemed very comfortable, protected as we were by the thick growth and by the larger tree trunks. As the night wore on, however, we grew rather uneasy, for we heard one after another of the big trees not far away in the forest, snapped by the wind and come crashing down. We did not sleep much that night, but preferred to sit by our fire, which was kept going till nearly dawn.

The gale continued to blow all next day with heavy squalls of rain and we stayed in camp. We had overcome our anxiety on account of the falling trees and spent a very cozy and comfortable day in camp looking out occasionally from



ON THE LOWER KUSKOKWIM

our safe shelter at the river, now whitened by the wind and thrown in spray against the steep banks. The canoe we had unloaded and dragged to a place of safety into the little gulley by which we had ascended.

On the 30th the wind had moderated and, being fair, we ventured out under sail. Pretty soon the wind rose again and we found that we could not carry so much canvas, so we ran under a bank, put in a reef and started out again. The river now spread out very wide and was full of bad sand-bars that could not be seen. I think this was the most exciting run we had. The wind kept rising and the water became very rough and we had to feel for the deep water and dodge the sand-bars as we sped along. Our good canoe carried her load and sailed well. After more than two hours of the exciting chase we rounded a bend and the wind came dead ahead, driving the spray in our faces. By good luck a large sized slough opened on the left bank and we ran to it for shelter. Once into it, we were in calm water and sheltered from the wind. Here we camped on the low banks of the slough. Again the gale blew all night and all the next day and we were glad to remain in our comfortable quarters for the time.

The country was now changed; the timber gave way to a growth of willow and alder. There were no longer any high banks or tables of land lying high above the river as at Kolmakoff. The river wound through a low flat country and we were approaching the tundra and facing a prospect much more desolate and dreary than the wild picturesqueness of the upper Kuskokwim and quite different from the high terraces with forests of spruce timber and stretches of open mossy ground that we had with us on the middle reaches of the river. The animal life was also changed; the ducks and geese were now rare, but that may have been partly due to their having already migrated south. The eagles, both bald and golden, that we saw very frequently all the way from the lake to the Holiknuk, now disappeared; the goshawk, a very frequent visitor near our camps farther up, came no longer, and the magpie, seen about Sikmiut, was absent also. Indeed, there was little animal life of any kind on this stretch of the river. At Sikmiut and later at Mamtrelich we were told that in former times the moose and the caribou came in large numbers to this country, but that of late years they had not been seen.

September 1st came in calm and clear with an



A KUSKWOGAMIUT MAN, SHOWING LABRETS AND EARRINGS

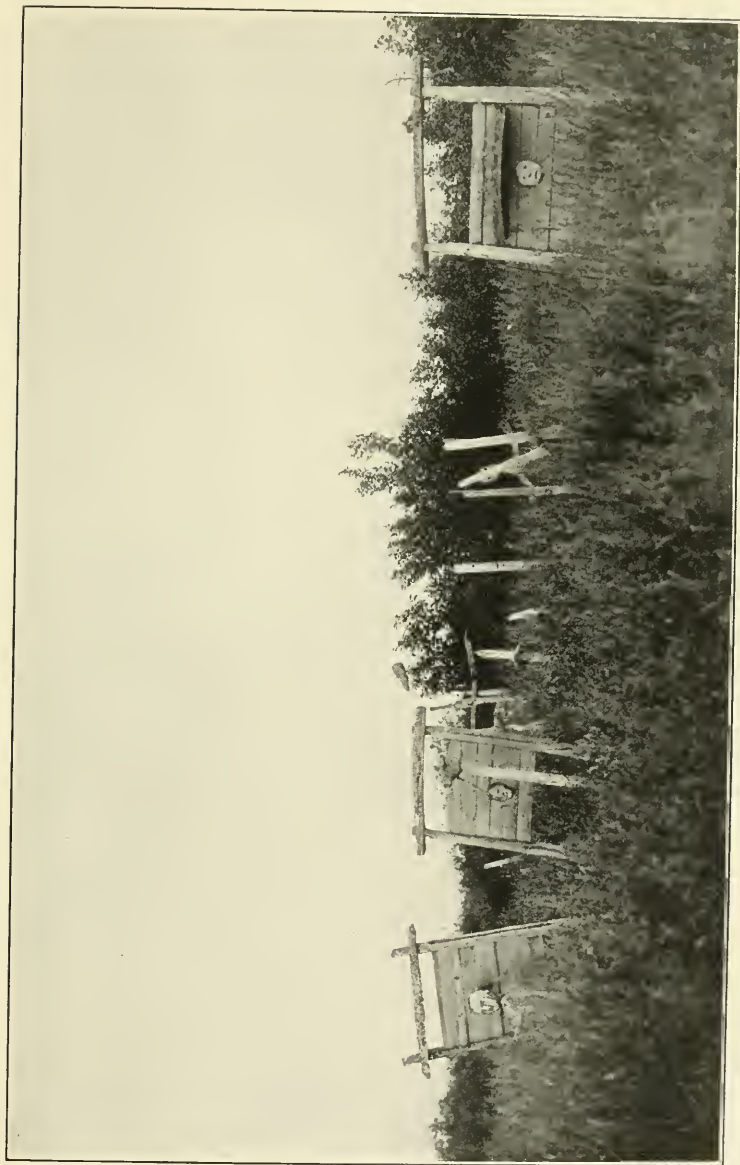
unruffled river stretching away in the bright sunshine and reflecting the banks.

As we paddled along, the river spread out until it seemed miles wide with islands and low headlands, while the current became imperceptible. It seemed at this point as if we were on a large lake rather than a river.

By our calculations we felt that we should be now near the native village of Mamtrelich and the Bethel Mission, but we were uncertain whether it would prove to be one day's journey or two or more. Early in the afternoon we saw a small village of three huts on the left bank and paddled towards it. We found one man at home standing on the shore to meet us as we landed. He made the sign of welcome, but that seemed to be all we could get out of him. By means of my small Innuït vocabulary and by gesture we tried to bring it home to this fellow that we wanted to know what was the name of his village, how far it was to the next village, how far it was to Mamtrelich, how far it was to the Mission. Had he ever seen or heard of any white men living below on the river? For all of these questions he had the same sign—he did not know. Despairing at last of getting any information out of this savage, we were pushing off and were

already afloat when he suddenly showed a great command of the Eskimo language. Grabbing a stick and talking all the time he began to draw lines on the sand of the shore. Becoming interested, we landed again and watched him. Following his movements, though not his words, we soon made out that he was drawing a map of the river from the point where we stood down nearly to its mouth. He showed that after following a straight course for some miles the river doubled back on itself. If we followed it we would have to go a long distance to get to Mamtrelich, which he indicated in its position on the map. But here was the important point; there was a short cut. Only about four miles below the point where we stood he drew two straight lines indicating a canal uniting the two sides of the loop in the river and cutting off the big bend. In an instant the whole situation was perfectly clear. He had evidently understood our signs from the first and only relented when he saw us going away disappointed.

Soon after we left him a breeze sprang up and we put up our sail and when we judged we had run the distance we watched for the canal and, sure enough, we soon picked it up, half concealed by the willows on the bank, and running into



AN OLD BURIAL PLACE OF THE KUSKWOGAMIUT

it, we lowered the sail. It was a narrow, deep slough, or natural canal, running almost straight across the neck of land. In about half an hour we found ourselves again on the broad river, having saved ourselves a long journey of many miles that we would have been obliged to make had we followed the river, as we certainly would have done if we had not been so accurately informed.

At half after six on that day, the first of September, we arrived at the native village of Mamtrelich, where the Moravian Mission of Bethel is established under the protection of the Moravian College at Bethlehem in Pennsylvania. We found the Mission in charge of Mr. Stecher, who, with his devoted wife, had been for five years at this station without having seen the outside world. They were assisted by two other missionaries. There was also a small trading store on the other side of the village opposite the Mission.

At Bethel, which is near the mouth of the river, we found to our surprise two of the flat-bottomed stern-wheel steamers such as are used on the Yukon. When the report of gold on the Innoko in the spring had promised to start a stampede to the Kuskokwim, some one had sent the first

of these steamers over into the mouth of the Kuskokwim from the Yukon with the idea of doing a thriving business by running up and down the river from Bethel to the mouth of the Tacotna. A little later someone else had sent the second steamer as a rival to the first. But the stampede was abortive, and there the two rival steamers lay all summer with nothing to do. Now winter was coming on and the gales made it unsafe for them to go out to sea to return to St. Michael.

The missionaries, who showed us every kindness and courtesy, put at our disposal a little log cabin, where, though there were no beds or furniture, we managed to be very comfortable. The weather was now cold, with the temperature, especially at night, dropping rapidly. We still had a journey of 500 miles to bring us in touch with communication to the outside world. That journey lay along the coast of Bering Sea to St. Michael and it was our intention to travel in our canoe and arrive there in time to catch the last steamer for the "outside." There was one alternative and that was to return up the river to the Yukon portage, cross over and come down the Yukon to St. Michael, which is on an island at its mouth. We voted against this alternative and decided to proceed by sea and

take our chances with winds and weather. We proposed to allow ourselves ten days at Mamtrelich to assemble collections and take notes and still be in time to catch the outgoing steamer at St. Michael. For the purposes mentioned we visited also a village about two miles farther down the river on the opposite side, and in both these villages we were very successful. The inhabitants were not anxious to trade with us, but we nevertheless made satisfactory collections during our stay.

A curious and interesting form of amusement in which people of all ages indulge is called aihruk and consists in a kind of play with a string made of braided sinew. This string is doubled in the form used in our children's game of cat's cradle and is employed in much the same way, except that the process is much longer and the figures that are developed are much more elaborate. Indeed, these figures sometimes present an extraordinary elaboration. I was able to collect and record twelve different figures, each of which had its name and was supposed to represent some object. Among the subjects learned and recorded by me were "the earrings," "the caribou," "the eyes and mouth," "two squirrels," "the old woman," "the paddle," "the ears and nose,"

“the bear,” “the crow’s foot,” “the throwing stick.” I have sent these to Miss Kathleen Haddon of Cambridge, England, the author of “The Cat’s Cradle,” who informs me that the “crow’s foot” is the same as one from Torres Straits already recorded.

I found in 1905 similar games but with different names and different figures along the coast of Bering Sea between St. Michael and Cape Prince of Wales, and the practice or invention, if one may so call it, is very prevalent and very highly developed among the Western Eskimo generally. It is, however, an invention that is found among primitive peoples in all parts of the world and is absolutely unknown as to its origin or original significance.*

An old man at Mamtrelich village in developing some of his more elaborate figures accompanied his motions by a kind of incantation or rhythmical recitation, the words of which, so far as I could make out, had no meaning. It appears that some, if not all, of the string figures of the Eskimo of the Kuskokwim have their appropriate corresponding verbal formulas which

* See THE CAT’S CRADLE by Kathleen Haddon and STRING FIGURES FROM MANY LANDS by Caroline Furness Jayne.



TWO KUSKWOGAMIUT GRAVES

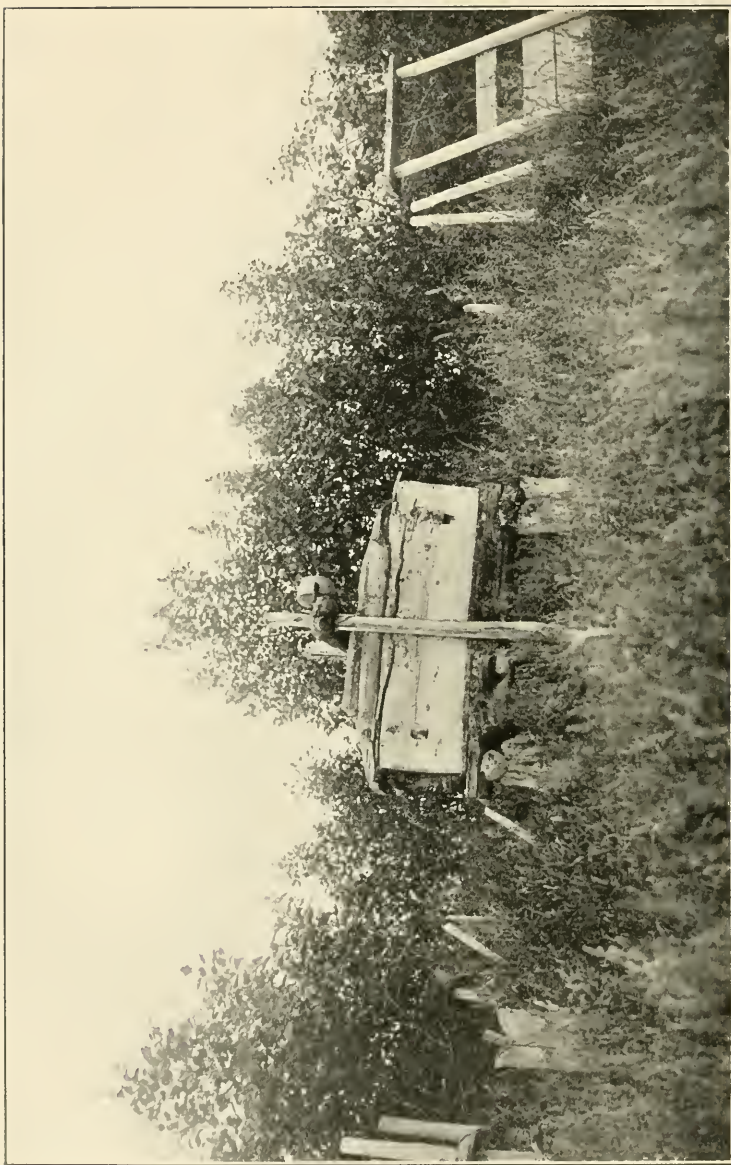
are repeated in time with the motions of the fingers.

By way of experiment I tried to induce the old man whom I have mentioned to develop one of his string figures without the recitation. His attempt to do so seemed to result in confusion and he had in each case to begin again and finally to repeat his formula. I suppose that his state of mind may have been similar to my own when I try to find a word in the dictionary, and in order to do so I have to repeat the whole alphabet to discover where I am at.

CHAPTER VIII

THE LAMENT OF THE NATIVE

The missionaries told us that the Kuskwogamiut are remarkably quick to learn but very reluctant to give up their ancient customs and habits of life. They were especially disturbed because these simple and primitive people insisted on performing every winter their customary dances, recitals and dramatic representations. All this the missionaries objected to and tried to suppress, and by their methods of interference had given great offense, as we soon learned from the natives themselves. At first the Eskimo were naturally suspicious of our interest, but they were quick to understand our good intentions and to respond. When they realized that we sympathized with them in their desire to keep up the old traditions, they stated their case and presented their argument with the utmost clearness and logic. Nothing could have been more intelligent than the way in which they defended their time-honored customs which to them meant so much. They showed great intelligence and fairness in their attitude towards the missionaries,



ANOTHER FORM OF KUSKWOGAMIUT GRAVE

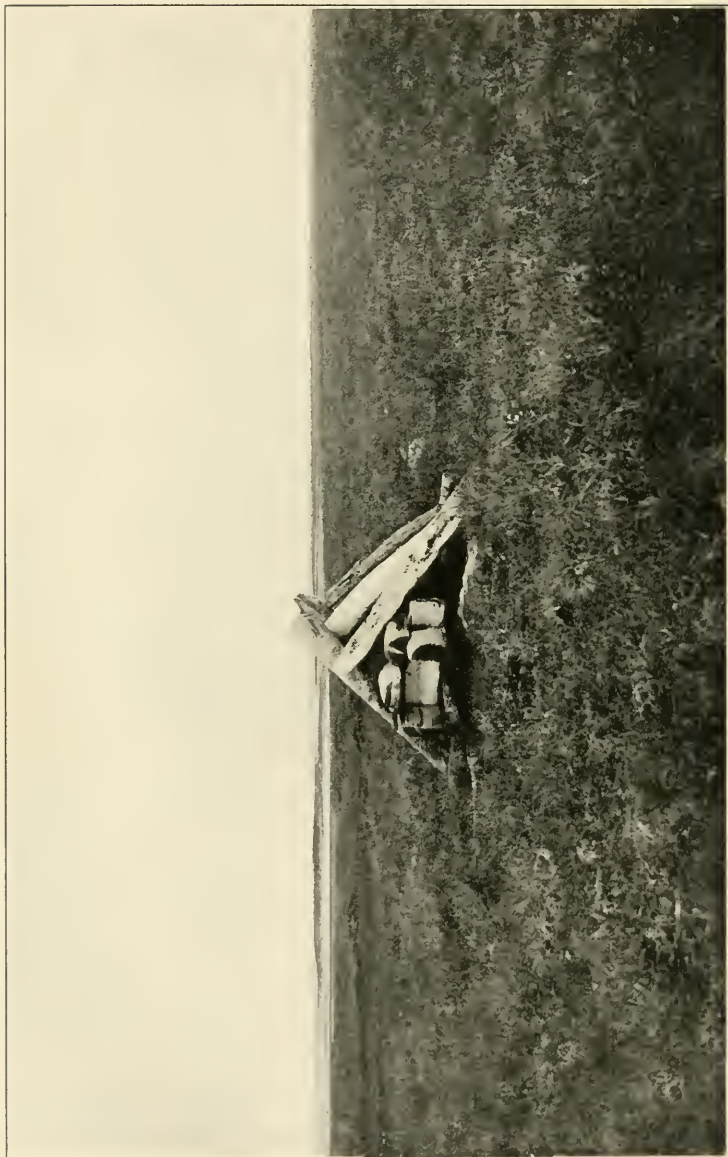
whom they regarded in a sense as their guests and whom they acknowledged to be good men. On their own part they claimed the right to live in harmony among themselves and to promote their own happiness as their fathers had done and according to their own customs, for which they feel a natural respect and veneration.

We, of course, did not see any of the dances or other performances because they take place in the winter only, but we had them described to us. They are much too long and elaborate to be given here, but I may say that they are in the nature of festivals which often last several days. The village that gives the performance invites all the neighboring villages and even villages at great distances are included in the invitations that are sent out. There is a great deal of interchange of ideas and experiences, as well as of commodities. There is much feasting and the ceremonies and dances are performed in strict conformity with a well established usage and are governed by rules of long standing. The rites attending the celebration of these festivals are often very elaborate and are performed with much attention to detail.

As represented to me, it struck me that these occasions are singularly free from objectionable

features of any kind. There is an underlying religious motive to some of them and all have a profound social significance. They are not only diverting but they keep the minds of the population of all ages occupied and their wits sharpened and directed towards definite ends for the common good. They regulate life and afford entertainment for the long winter of indoor life which would otherwise tend toward idleness with its inevitable evils and hardships. They also promote friendly intercourse between the different villages and stimulate trade relations.

The missionaries, on the other hand, argue that these native practices, though apparently harmless, are bound up with their heathendom generally, that they tend to preserve religious beliefs and notions about spirits that are not included in the Christian teaching. For this reason they feel that the practices must be stamped out before the people can be reclaimed from error and converted to the true faith. They told me themselves that they had gone to the places of the festivals uninvited at different times and interfered as far as discretion would permit. From the natives I heard also of these visits. They explained that the missionaries knew very well that going uninvited to a feast was not



A LONE GRAVE ON THE TUNDRA

according to custom and that interference was an affront. Most bitter of all was the complaint of the older men and women that the young people no longer conducted themselves with the propriety which had always been customary. They were even becoming disrespectful to their elders and careless of the old ways and of the things their people had always considered proper. This they attributed to the teaching of the missionaries.

In addition to these complaints I heard again and repeatedly that sickness had increased and that new forms of disease had come among them. They felt that their happiness was slipping away from them and that demoralization and misery were encroaching upon their lives as a result of the white man's presence.

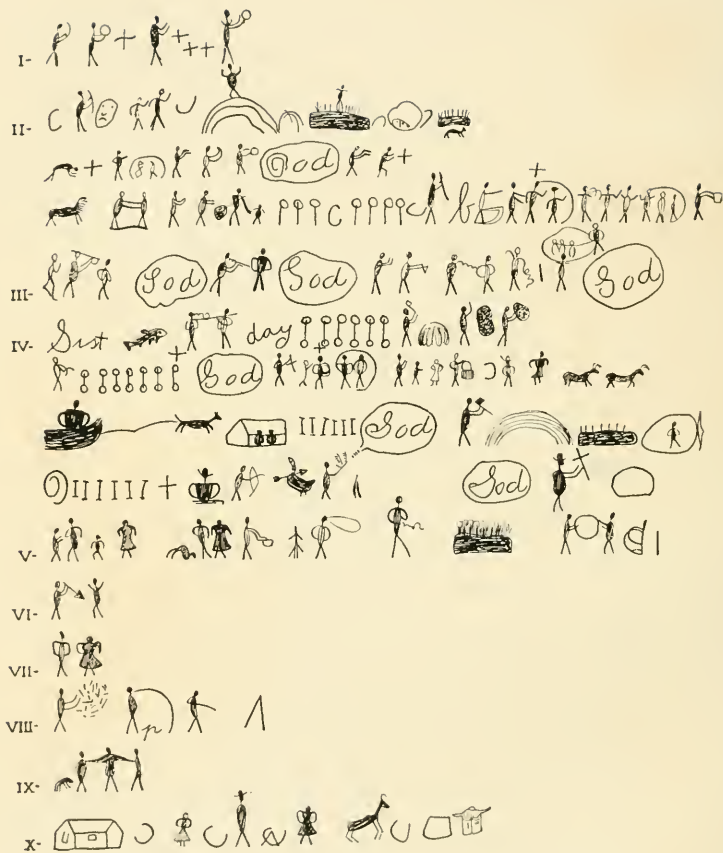
I am not prepared here to discuss the justice of these complaints. I have no doubt that in making them the people of the villages were expressing a very real conviction and that they have experienced a very real sense of injury.

As a piece of evidence to confirm the statements made about the inroads of disease, I saw several villages entirely deserted where the houses were falling upon the bones of the unburied dead. The missionaries also told us of the sudden and

epidemic eruptions of disease that had left whole villages depopulated, but they attributed the circumstance to the habits of the natives themselves.

One of the most interesting things about these villages on the lower Kuskokwim, from a scenic point of view as well as from other considerations, are the old cemeteries. I say old cemeteries because there are two forms of burial, an older form and a later form. At the present time the burial custom is the same as that practiced by the Eskimo of other parts of Alaska. The body is placed in a rough box and this either rests on the ground or is supported above it.

In the older form of burial, the grave was dug in the frozen earth and above it a monument was erected containing a tablet with an inscription in picture writing, and attached to this, a wooden mask to represent the dead. If the man be very important a complete statue may take the place of the mask to represent him. Weapons and implements used by the dead were fastened upon the monument and the whole structure was sometimes ten feet high. All the graves of this type were old, but how old I could not tell nor could I get any satisfactory information about them. Upon one of them was an old Russian flint-lock gun, which, however, would only be a



THE TEN COMMANDMENTS IN PICTURE-WRITING

very rough indication of the age of the grave. The inscriptions in picture writing had been painted on the tablets and were in each instance almost entirely obliterated, a thing that gave me much regret.

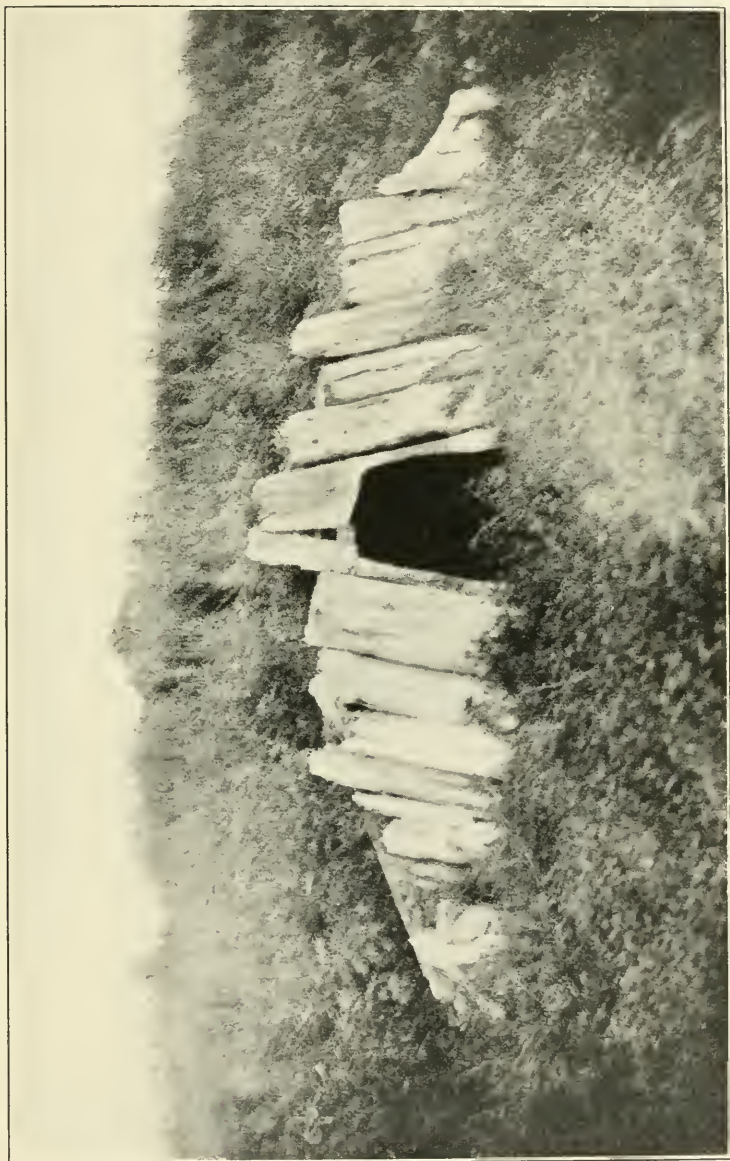
The art of picture-writing is highly developed among the Kuskwogamiut. There is nothing that they will not essay in the field of literature by their skilful handling of this picturesque device. Among the examples that I was able to collect are invitations sent to distant villages to come to a feast, records of hunting, fragments of old songs and legends, personal narratives and stories of adventure. Through the kindness of Mr. Stecker, the missionary, I also obtained copies of some remarkable documents written by a very intelligent native who listened to the scripture readings at the Mission Chapel with great attention. He wrote down everything he heard in picture-writing and had thus accumulated a library of his own. Among the first things he wrote down was the decalogue. That the reader may see what the Ten Commandments look like I reproduce here a faithful copy.

The author of this document, whose name deserves to be remembered, though I am sorry to say I have forgotten it, relying entirely on

his own resources, afterwards discovered that he needed a more rapid method of writing to keep up with the spirit of the time, and he gradually developed a system of shorthand by using the picture writing as a basis. By means of this discovery he could take down all the lessons and sermons that he heard and recite them afterwards without missing anything.

The central feature of each village, as of all Eskimo villages, is the *kozgee*, a large house built mostly underground and big enough to hold the entire population of the village and in addition such guests as may be invited to the ceremonial meetings and dance festivals that always take place in the *kozgee*. At all other times it is the men's house, where all the men of the village may assemble, and where each has his appointed seat and sleeping place. From this club women are excluded except at the dances. It is there that all the unmarried men sleep. Married men have been known to sleep there also.

Another function of the *kozgee* is that of the sweat bath in which the men are fond of indulging. The heavy hewn planks that form the floor are movable over a square central area. Underneath this area is a deep pit, directly under the smoke



ENTRANCE TO THE KOZGEE AT OGOVIK

hole in the roof. When the men or any group of them wish to take a sweat bath they build a great fire in this pit and in this they place stones which become red hot. In the meantime great wooden buckets filled with water are placed in readiness, and the entrance is tightly closed so that no air can come in. Each man holds a cleverly devised respirator in his mouth which he removes at intervals, as the air becomes more intensely heated, to drink enormous draughts of water from the buckets. Finally water is dribbled continuously on the red hot stones and the smoky air of the kozgee, already intensely heated, becomes heavily charged with steam. Perspiration is freely induced and the men rub their bodies with urine, which, on account of the ammonia it contains, produces a lather. Finally the door is opened and all rush out and roll in the snow in evident delight.

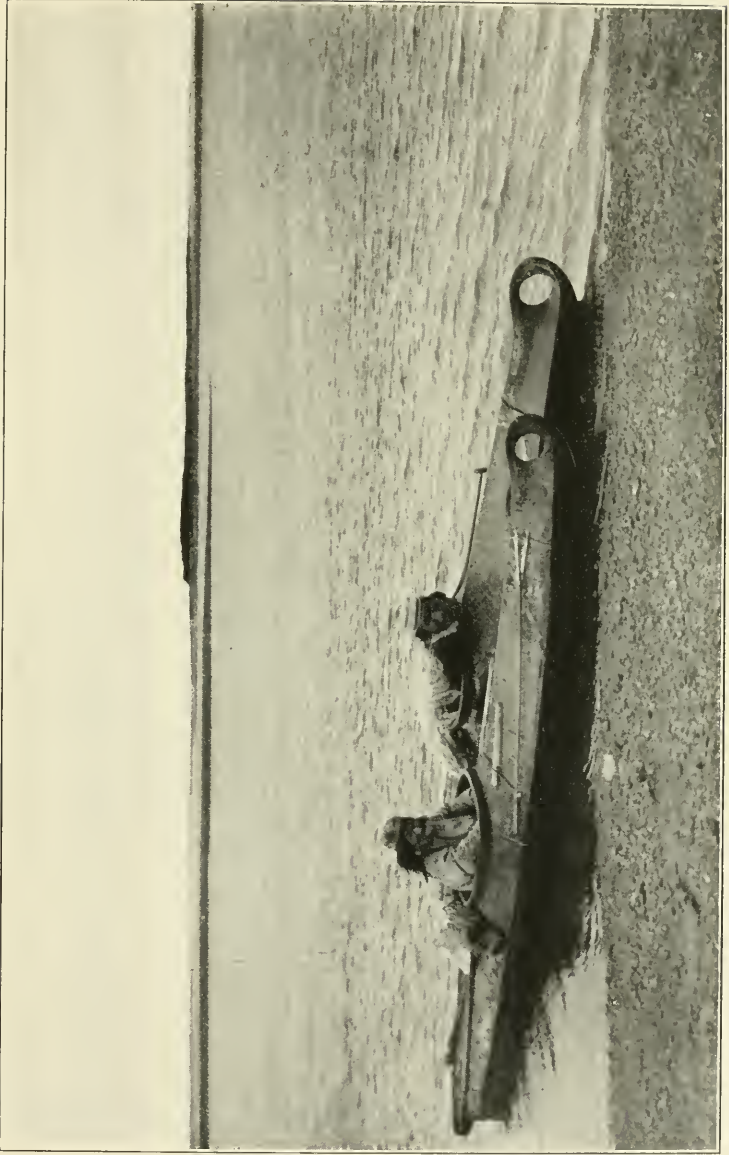
The kozgee, it will be seen, serves many different functions. As a social institution it is obviously of great importance and worthy of much study. It is the common property of the men of the village and its privileges are extended to the women during those ceremonies and dances in which all participate.

There are many interesting things which I

observed at these villages, but this is not the place to record them. I learned of many more things of equal or even greater interest which I did not observe, both because our short stay of nine days afforded me small opportunity and more particularly because the time for making such observations is the winter season.

The time was at hand when we must resume our journey and the first difficulty that now presented itself was how we should transport the collections we had made which were now too large to be packed in the canoe. I have already mentioned the two river steamers which were now being laid up for the winter. In the spring they would be going out to the Yukon. We had decided to leave the bulk of our collection in safe keeping with the missionaries, who were kind enough to promise to send them out by one of these steamers in the spring. However, something quite unforeseen happened which led to a change of plan.

A boat appeared one day coming up stream, driven by a gasoline engine and having on board three men; the owner, his mate and his engineer. They had come from Nome on a trading venture along the coast and before returning had decided to run up to the Bethel Mission. They were



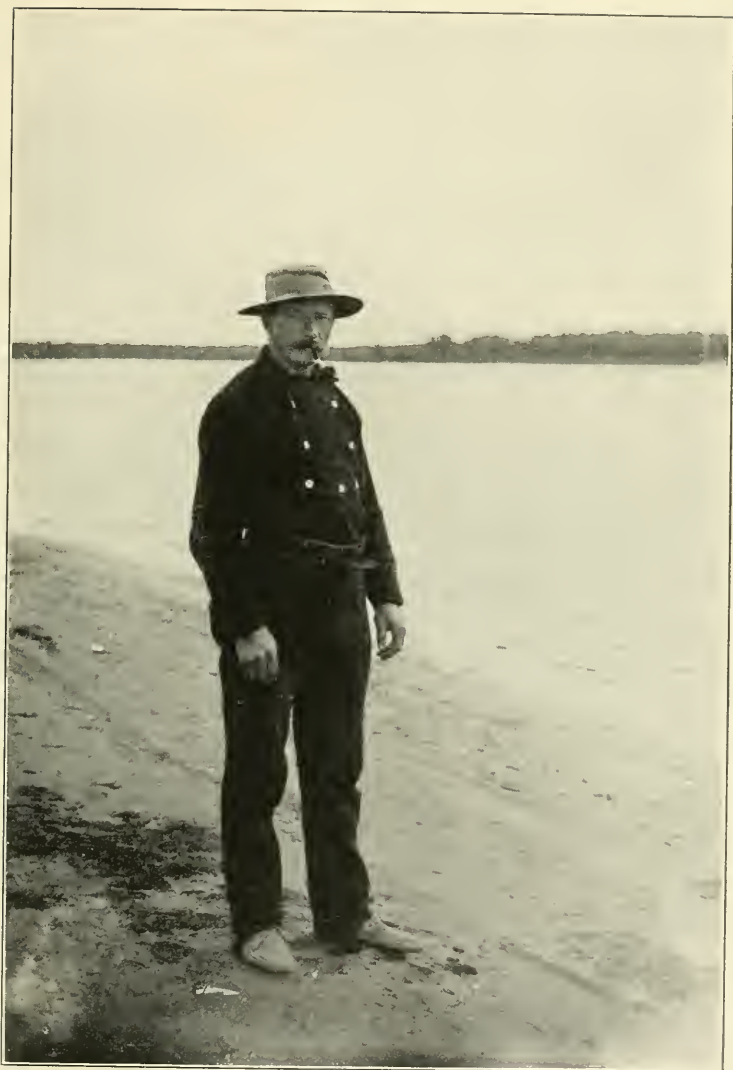
TWO KUSKWOGAMIUT HUNTERS IN THEIR KYAKS

ready to start on the return trip. Here was an opportunity that changed the outlook and made it possible to reach Nome and connect there with the steamer for the outside instead of traveling to St. Michael in the canoe four hundred miles along a stormy coast as we had planned. Yet it took us some time for making our decision. We were most reluctant, for one thing, to give up the plan already formed, which promised experiences of a novel and adventurous nature and of a kind quite different from those afforded by that part of our journey which we had completed.

Our canoe had served us well on our river journey and we believed that it would serve us equally well on the salt water. There were chances, to be sure, which we were quite aware of. We felt that we could for the most part keep close in shore, but we knew that there would be wide bays and stretches of exposed water to cross and we might get caught in such a position in a storm. Moreover, the season of high winds and equinoctial gales was at hand and we already had a taste of their quality, but we had experienced nothing, as yet, to be compared with the storms we met later. Neither of us wanted to leave our canoe, and we both wanted to finish the trip as we began it. On the other hand,

neither of us wanted to miss the last steamer out of Bering Sea. We talked with the owner of the little trading boat and he was positive that, as he proposed to stop nowhere on the return, the journey would not be more than five days long.

This decided us. We had been allowing fifteen days for the journey, but there were so many unknown quantities and so many chances to take that we realized we might miss the steamer at St. Michael. We therefore decided to take passage with the trader in his boat, *The Hettie B.* As our troubles began the moment we stepped aboard this unlucky craft, some description of her will help to an understanding of what happened.



THE AUTHOR ON THE LOWER KUSKOKWIM

CHAPTER IX

SHAKING HANDS WITH THE WILLOWS

The Hettie B. was about forty feet long and ten feet of beam with five or six feet of depth. She had a house over the forward two-thirds of her length standing two or three feet above the deck. She had a small mast well forward and carried a small sail. She had a little gasoline engine and as a part of her load she carried about thirty cans of gasoline lashed on deck. In her hold, when we left Bethel, she had a store of furs and the boxes in which we had packed our collections. The cargo was stowed in such a way that it formed a fairly level surface with about four feet in the clear between it and the roof of the deck house. It was so disposed, in other words, that we could lie down or sit up, but the only place we could stand upright under the deck house was the after-part, which was separated from the rest by a bulkhead and in which the little engine was installed. Up in the bows was a window with a small wheel and a compass. A few feet of space at this forward part were left clear of cargo to give standing room for the steersman.

We had on board when we left Bethel the crew of three men, that is to say, the owner, who was a Norwegian named Houlberg; Herman, his partner (also a Norwegian), and the engineer, whom everyone called Sparks though his name was Bachelder. There were, besides this crew, five passengers: my brother and I; a Jew named Block who turned up at the Mission and seemed to be lost generally (he was working his passage in the capacity of cook); a Finn named Reeth, who claimed to have discovered gold not far from the Mission and let it be known that he was going out to the United States to get capital to work his mine; Flaherty, an Irishman and captain of one of the river boats already mentioned; and a strange Swedish person named Larsen. This last named adventurer had, a few days before, made his weird arrival in the most unconventional craft that I have ever seen. It was simply a piece of canvas fastened in a very casual way about some bent willow poles. It resembled more than anything I can think of a very much improvised bath tub a little longer one way than the other, and holding together either by sheer luck or else by some form of innate perversity that upsets all theories of matter and flouts the law of chance. He had floated down the Holik-

nuk, according to his story, and the only thing he carried was a Winchester carbine with the barrel hacked off about a foot from the lock and the stock amputated as well. It soon became evident that he had been "shaking hands with the willows."

The last expression which I have now had occasion to use more than once needs some elucidation at this point. It often happens that a prospector or trapper, wandering off by himself and penetrating deep into the forest in pursuit of some fancied El Dorado or some hunter's paradise, lives for months and even years without seeing his fellow men. Some hardy and well balanced minds can stand it. Others experience varying degrees of derangement, and in the language of the North, such a man is said to have been shaking hands with the willows. The origin of the expression, like many phrases that have enriched our language, is lost in obscurity. Larsen had been shaking hands with the willows. When he found that I had a camera he expressed a desire that I should make a photograph of his head, because, as he explained, he had n-rays that proceeded from his forehead and he would like to see them in a photograph. His explanation of these n-rays was somewhat vague but

sufficiently explicit to claim for himself a certain infallibility in the pursuit of game. The n-rays directed him to the animals and held them bound as by a spell and thus enabled him to walk right up close to them and shoot them with his gun. So close was he able to approach a moose, for instance, that he had found his carbine too long and that was why he had hacked it off at both ends.

On September 9th we left Bethel. A few hours afterwards I asked the captain to put me ashore to examine a deserted village that I saw on the bank. It had evidently been abandoned several years. In the interiors of the falling huts I found various implements and utensils lying about and among the general wreckage were scattered the bones of the people that had died in their homes with none to bury them. Among the things I took away were a number of skulls that I collected for scientific use—I mention this only on account of an incident that happened later.

It was not long after we left this place that we ran on a bar. We were now in tidal water, which, ebbing, left us hopelessly stuck. We all turned in, that is to say, six of us lay lengthwise on the cargo, taking up all the space afforded by the width of the boat and lying close. One

of our number had room to lie crosswise at the feet of the six and Sparks curled up in a corner beside his little engine.

No watch was set, a mistake on the part of the owner, who was also the skipper. During the night a stiff gale blew up and when daylight came we found that the flowing tide had lifted us from the bar and the wind had driven us ashore and we were high up among the bushes. By hard work we succeeded in getting off about noon. Now it happened that the second river boat that I have mentioned was anchored a little farther down, looking apparently for a good place to lay up for the winter. On the steamer was a man named Cornelius, a Californian, who had just recovered from sickness and who was anxious to get out. He was brought over in the longboat of the steamer and taken aboard our little boat as an additional passenger. This made nine people on our already crowded craft.

We got under way once more, but had hardly started when the wind got blowing so that we were compelled to run into a cove and drop our anchor. In the morning we started again, still towing the longboat with the intention of dropping it when we passed the steamer to which it belonged, but this longboat's painter got foul of

our propeller, so we dropped anchor again and tried to clear the propeller, but could not do so. Then the anchor rope broke and we drifted ashore on a high tide with a strong wind piling the water up the bank. The tide went out and next morning we were high and dry right up among the willows. We cleared the propeller, recovered the anchor and tried to get the boat off when the tide came in. She was stuck so fast in the mud, however, that we were unable to move her, so we spent another night among the willows, to await the next high tide which came about noon next day. Again we failed and again the tide left us. On that day, shortly after noon, I told my brother I was going to have a look at the country that lay behind the willows. He was for going with me, but I thought it better that one of us should stay by the boat. Then Sparks volunteered to go with me. I took a pocket compass and a shotgun. A hundred yards from the bank the ground fell away, became very soft, and we struck across an oozy mass of rank moss saturated with water, so that we sank to our knees, an aggravated form of niggerhead and muskeg. At the same time the willows ended and a perfectly flat tundra bare of bushes stretched to the far horizon, with numerous miniature lakes and

ponds in every direction. I took a compass bearing and followed it, with only such deviations as were required to avoid the water. Under foot it still continued soft for the most part, though there were stretches of firmer ground. In spite of this condition we were able to make good progress. In about two hours we came to a fairly large lake where we saw some geese, but they kept well out of reach and there was no way of making cover. We kept on for another hour and saw some ducks on a pond, shot two and waited for them to drift ashore. Then, as we were about to start back, we saw that the distant horizon was blotted out and a dense fog bank came rolling across the level tundra. Without a fog we had absolutely no means except the compass to indicate the direction or to guide us on the level and confusing mixture of oozy land and still water. The only difference made by the fog that soon enveloped us with its cold grey mantle was that it made it difficult, while shaping our course by the compass, to avoid the standing water which in places had the dimensions of small lakes. Sparks was a little man, and though he did his best with his legs, I had frequently to retard my pace or wait for him to come up before he became obliterated in the fog. Finally it got

so dark that in order to see the compass I had to light a match from time to time. It occurred to me that to get lost on that tundra and have to spend the night would be excessively uncomfortable; there was nothing with which to make a fire and there was no place dry enough to lie down. In fact, if we lay on the wet moss the water would ooze up round us. It was some relief when we struck the willows again and the elevated rim of the river that afforded firm footing. A little later we came out on the river bank right on top of the boat. By luck and close attention to the compass, we had directed our course straight for our starting point in spite of the numerous deflections owing to the confusing ponds. Sparks made a long and, to do him justice, a thrilling story of our adventure for the general entertainment. He stated with emphasis that I had walked his dam'd legs off, that he never expected to see the dam'd boat again and that he would undergo a similar engineering operation if he knew how I had found my way back. Whatever I might have felt about the rest of his story, I was entirely of his mind about the conclusion; but I did not think it necessary to let this be known. We stewed the ducks and found them so fishy that they had to be rejected, which was a

sad blow to our pride, especially for Sparks, who had had a good deal to say about our knowledge of game and our skill as sportsmen.

Next morning my brother took the longboat down to the steamer and borrowed some tools in order to get us afloat. He soon returned with some picks and shovels. With these he put us all to work digging a deep canal from the bow of the boat (she had gone up the bank stern first) out across the tide flats to deeper water. When the tide came in later in the day we were able to float her out through this canal. Otherwise I suppose we might be there still.

We now started out afresh in good weather and soon passed the steamer, which still had her captain aboard, and left the longboat. The river soon widened into an estuary some miles in width. In the evening we were about five miles off the large Eskimo village of Quinhagak; we ran on a bar in a rapidly falling tide and got stuck. At this place there was a branch of the Bethel Mission. Next morning when the tide was high we floated off and ran towards the village. When we were half a mile off we again got on a bar. When the tide went out it left us dry and we could walk to the village.

Getting on this last bar was a piece of good

fortune to which in all probability we owed our lives. It was a sand-bar and as the boat lay over on her side we could examine her keel and all of her joints. We found that the heavy iron shoe that was spiked to the keel at the stern and that supported the rudder, had come loose. If we had gone to sea without discovering this condition and repairing it, we could easily have lost our rudder in the first rough sea we struck. It took us two days to make these repairs. This gave me time to visit the village and make the acquaintance of the natives as well as of the missionary, Mr. Schoechert, an energetic and intelligent man, who, with his wife, were most kind and helpful.

The tundra about Quinhagak is somewhat higher and drier than many parts I had seen. During my walks of the two days spent there, I had had opportunities of observing it. I do not think that there can be anything on earth more forlorn and desolate than the tundra. It is level like the sea and has just enough undulation to suggest waves; one catches a glint that suggests water at intervals on the skyline; there is everywhere a rank smell, and all around is moss. Such a description sounds like the end of desolation and monotony, and yet when I looked over that

wide stretch of tundra at Quinhagak, I was aware that it had a beauty and fascination of its own. It was September and the different mosses were all different colors, soft reds and yellows and browns and greys. In that blending of color consisted the beauty of the tundra in September.

On Sunday, the 15th of September, we were off again, this time heading right out to sea with Nunivak Island on our starboard and a bold promontory called Cape Newenham on our port. As night came on it came up to blow, the sea became rough and the engine got working very badly. We put up the sail and shaped a course to clear the island and the shoals and to get well out to deep water where we could shape a straight course to Nome.

Night came on pitch dark, the wind blew harder, the sea became rougher, we were tossed about and the engine stopped working altogether. We did the best we could with the sail, steering by the compass, and trying to work out to sea and clear the land and possible rocks and shoals. We passed a rough night and when morning came we found ourselves abreast of Nunivak Island, having drifted all night. We had been steering a straight course well up in the wind and we had been carried rapidly by wind and current

nearly at right angles to our course and were nearly thrown on the land. Houlberg picked out a cove on the coast of Nunivak Island and in running for its shelter narrowly escaped a sunken rock. It was Flaherty who saw the danger and swung the boat just in time to save it. The island is rocky and has one considerable elevation which, after the tundra, might properly be called a mountain. Mac and I climbed this and from its top surveyed practically the whole island. We could see no inhabitants, though on our way we saw an old ruined village of considerable size.

CHAPTER X

ADRIFT ON BERING SEA

We filled the water cask from a spring and started out to sea in the afternoon, the weather having moderated and Sparks having satisfied himself that his engine could be persuaded to work. During the rest of that day and all that night things went well enough. Next day, however, the wind rose. It blew from the southeast and before noon a storm was raging. The engines stopped working altogether and even before they quit we were making no headway, for the propeller was half the time out of the water, and even with the help of the sail she got no steerage way. The boat lay in the trough, broadside to the seas. If she had not been a very stout boat she must have gone to pieces. Each time that she dropped into the trough and the next great wave hung above her with its crest torn by the wind, it seemed that the sea was about to fall on top of her, but each time she rose, broadside, reeling and tossing to be sure, but giving a remarkable account of herself in a heavy sea.

For four days and four nights the storm blew

without any intermission. Meanwhile, we were drifting far out into Bering Sea, perfectly helpless.

Now, to the general discomfort, there was added an unpleasant incident that illustrated a dismal side of human nature—superstitious fear. No objection had been made to the Eskimo skulls when they were brought aboard. However, on the day we left Quinhagak, Larsen, the man with the n-rays in his head, who had been shaking hands with the willows, announced his decision not to trust himself at sea in company with those skulls. He therefore left the boat and predicted that we would all be drowned in Bering Sea. This suggestion of a crazy man was enough to disturb the weaker minds. They had evidently dwelt upon it in secret until they became convinced that the skulls of dead Eskimo in the bottom of the hold were the cause of our bad luck. It came out suddenly from Cornelius, the Californian, who was supported by Reeth, the Finn, and Block, the Jew. Flaherty, the Irish sailorman, was probably not without some superstition of his own, but he could not abide the Jew and if he was going to be drowned he would take care at least that he would not be caught in that kind of company.

From the start there had been a feud between

these two. Without giving any special cause for offense so far as I was aware, Block was the object and the victim of Flaherty's open and undisguised hostility. The Irishman had promptly invented a name for the Jew which, whatever merits it may have had otherwise, was open to the objection that it is unprintable. The Jew on his part retaliated, less aggressively to be sure, but with just enough spirit to keep the Irishman occupied.

Now when Block added his voice to the dark counsel of fear and superstition, Flaherty found in this act a new cause for offense which he resented in the most vigorous manner, and with great volubility. He did not offer any opinion on the merits of the case. The attack which he launched was directed in the broadest and most impartial way against the physical, mental and moral qualities generally of the unfortunate Block, who had neither the size, courage nor facility of speech requisite for effective retaliation.

When this diversion had subsided the subject of the skulls was soon resumed, chiefly by Cornelius, seconded by Reeth. These men were not only serious but were becoming desperately in earnest as the storm became fiercer and our plight apparently more hopeless. I thought it

wisest to make light of the matter, but the thing would not down; it kept reviving until it was easy to see that the minds of all were becoming affected by the same thought and fear. It was becoming awkward and I did not know how it would end if the storm kept up for many days. Mac and I, by way of privacy, lay on one occasion face down along the roof of the deck house, maintaining our position by clinging to the cleats and their lashings while the seas broke over us. I confided to my brother that I should have objections to being made to play the part of Jonah. He replied that he felt it would be exceedingly awkward in the circumstances, because there were very few whales left in Bering Sea owing to the activity of the whaling industry.

We then took advantage of an opportunity and took the skipper into our confidence. I told him that I was quite ready to put the bones overboard if in his judgment the occasion demanded it. Houltberg replied that the cargo of the boat was entirely in his charge and he would take care of it. He then took Flaherty into the council, and he gave his word that he could be counted on in the event of any trouble. When the next word was said on the subject of the skulls the skipper announced that he was tired of hearing nonsense

which required several qualifying phrases. Moreover, this boat belonged to him, he was in charge of the damned outfit and he would see it all in hell before he would listen any longer to the talk of the people who had evidently been shaking hands with the willows. He was thoroughly in earnest and his manner of speaking had the right effect, for the subject of the skulls never came up again.

On the fifth day the storm abated and a heavy swell followed the subsidence of the huge waves that had tossed and pounded us for five days. After much persuasion the little engine was started going and we struggled along slowly and laboriously on the swell. The compass had been smashed by a sea that carried away the stout sash in front of the binnacle. The course steered was arrived at by guesswork and by the position of the sun. It was impossible to tell how far we might have drifted during the five days of storm and therefore our position was indeterminate. That night the boat was steered by the pole star which, attended by the dipper, hung high in the heavens. In the morning what appeared to be a long low coast line lay on our port, that is, to the northwest. The appearance of land in that direction was a surprise, for it

would indicate that we had drifted at least as far as St. Lawrence Island, or perhaps even as far as the Siberian shore. As the sun rose the features of the coast stood out clearly and distinctly, apparently about three miles away. We changed our course and ran towards it. We continued on this course without apparently getting any nearer land and concluded that owing to some atmospheric condition we had miscalculated the distance. There lay the land as plain as could be and still the same distance away as when first seen. It was uncanny. Suddenly the landscape broke up and vanished into nothing and we knew that we had been deceived by a mirage.

By noon on that day, September the 25th, it began to blow once more from the southwest, and by night the storm was upon us again with greater violence than ever. Again the engine stopped and again we lay broadside to the seas that walloped us unmercifully. The rations now began to run short. We had left still some smoked salmon, some ship's biscuit, some beans and a little coffee. Worst of all, our cask of water was getting low. Each man was now allowed a small piece of salmon, one ship's biscuit and a cup of weak coffee in the morning and the

same at night with the addition of a few boiled beans. In the middle of the day each of us had a cup of water. From the constant battering, several seams about the waterline were opening and admitting the sea. This we were able to stop by constant and repeated calking on the inside.

This storm lasted four days and when it was over we had finished all our provisions except a few beans. Worse still, we had used up all the water. Everyone had become very much depressed during these days. Even Flaherty and Block forgot their animosity to the extent at least of ignoring each other's existence, and that was something of an achievement, considering that in our cramped quarters they could not avoid physical contact. The fresh water was gone, and the handful of beans, the last remnant of our provisions, were raw. Block, in his capacity of cook, undertook to boil them in sea water. The longer he boiled them, the harder they got, and when he got through they were like small pebbles.

I cannot remember that we suffered very severely on account of the lack of food. The want of water was more serious, but that was not so bad as it might have been. Our clothes were damp

all the time and the weather was growing cold. On the last day the spray began to freeze. We were so hardened that we felt the cold remarkably little.

On the morning of the 29th of September the gale had blown itself out and we ran all that day and night and all of the following day in the direction which we supposed would take us to Nome or some adjacent part of the Alaskan coast. On the morning of the 1st of October we saw land ahead and early on that day we ran into a bay under the lee of a high rocky promontory. This, by studying a chart that we had on board, we soon recognized as Cape Darby on the East of Golovin Bay in Norton Sound and we were still a long way from Nome. All day we ran along the coast westward in fair weather. Near midnight we rounded a high cape and saw right ahead the lights of Nome. They were electric lights at that. High above the rest there stood out a flaming cross. In the absence of a lighthouse the Roman Catholic Church at Nome had erected a large wooden cross on top of the spire and illuminated it with electric lights to guide ships approaching the shore at night. We were just twenty-two days from Bethel and five days had been allowed for the journey. We found that

the last steamer was very late and we had two weeks to wait at Nome. It was now freezing hard and ice was forming inshore. We spent the time comfortably enough at getting cleaned up and eating everything in sight to make up for our short rations on *The Hettie B.*

I have forgotten the name of the steamer that made the last trip that season from Nome to Seattle, but she was, I believe, lost in the following year off Puget Sound. Our voyage from Nome to Seattle took twelve days and it was a rough passage. The captain was sick and the ship was in charge of the first officer. We arrived at Puget Sound by night in a thick fog. The next morning the fog still hung heavy and the engines were stopped. After the fog lifted a bit we began to go ahead. The mate lost his reckoning and as the fog cleared, he hailed a tug boat and found that he had turned completely about and was running in the wrong direction. The captain died that day, before we reached the pier.

It had been a rough voyage in every way, the crew were rough and, in the absence of the captain's authority, were in a state of half mutiny; the food was rough and in the middle of the voyage the cook went on a strike and we were

served with cold things out of tins. After two days in irons the cook decided to go back to work. Then there was a row among a crowd of gamblers in the smoking room. It became so bad that the mate tried to interfere, only to find himself in danger, for they threatened to put him overboard, and he could not trust his vile rabble of a crew.

It was settled after a while without bloodshed, but the game went on with frequent outbreaks until we reached Seattle. We were glad to get off that boat. Indeed, from the time we reached Bethel at the mouth of the Kuskokwim till we reached Seattle, and for that matter for a long time afterwards we never ceased to long for our good canoe that we had built ourselves and in which we had passed so many good and agreeable days, and which had carried us a thousand miles across a country that was still a wilderness.

The pleasure that is derived from such an excursion as I have described, or from any journey that brings one into close contact with the wilds, is the most lasting in human experience, for as time goes on memory adheres with affection to each favored event, dismissing all the hard, unwelcome facts, translating the discomforts into positive enjoyment and turning her countenance

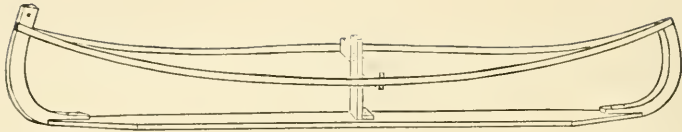
away from all disturbing details. This soothing trick of the mind in deleting from its tablets each jarring record and inscribing the rest in purple and gold, is known only to men who have hit the lonely trails. It does not hold in everyday life and it may not be invoked by any conscious effort. It is a solace that Nature prescribes through some sweet influence of her own for those who, escaping from the tyrannical toils of city life, seek comfort in her rough ways.

Every man who has tried it knows that camp life is the best, but not all have lived it, as I have done, under the best conditions. To be at its best, camp life must be shared by two men and no more. To be at its best there must be, between these two, the perfect mutual faith that removes not only mountains but mole hills, and that, while distinguishing the separate and independent personality of each, enables them to act together as one. These two may be brothers or they may come from the ends of the earth, but when the occasion arrives, each is ready to give his life for the other as a matter of course. No matter what difficulties may be encountered or what hardships endured, camp life under these conditions is the best life there is.

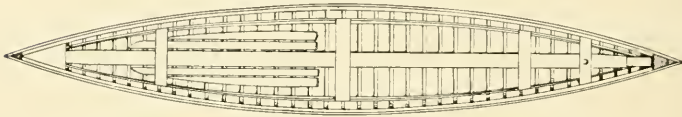
Having known it, therefore, at its best on many

proven trails, the two men whose life in camp during one brief Alaskan summer is recorded here, turned again with each succeeding year more longingly to their abandoned fires on the sand-bars and in the swamps along the lonely rivers of the North. Forgotten were the discomforts, forgotten the weariness, the exposure, the hunger and the thirst—they remembered the glittering pageant of glorified days and the deep enfolding shadows of the magic nights; they remembered the healing labor, the well earned rest, the close companionship and the sound, dreamless sleep.

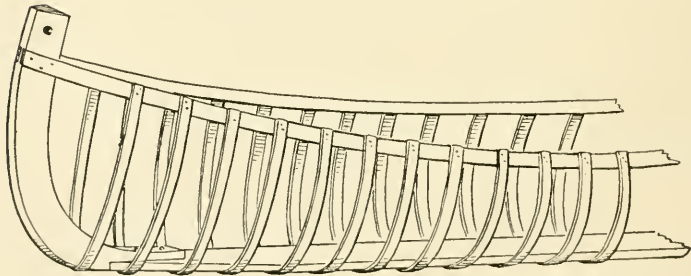
The years that have passed since then are filled with great and terrible events and the world has been so changed that the simple pleasures of the time that was are like a gorgeous dream, a happy “vision of fulfilled desire.” There is a certain cold and melancholy comfort in the act of writing them down to prove that they were once a reality.



CANOE CONSTRUCTION; KELSON, STEM AND STERN POSTS AND SHEER STAKES IN POSITION. TEMPORARY SUPPORTS IN THE CENTER



CANOE CONSTRUCTION; DIAGRAM ILLUSTRATING DETAILS OF THE FINISHED CANOE



CANOE CONSTRUCTION; DIAGRAM SHOWING THE RIBS IN POSITION

APPENDIX A

CANOE CONSTRUCTION

For readers who may be interested and who may have occasion to build a canoe under similar circumstances, I give here the details of construction for the canoe which we built at Fairbanks.

Our first step was to go into the woods and select two dead spruce trees about five inches in diameter, with a spring at the bottom terminating in a stout root leading to one side. These, being dug out of the ground and the lower section of the trunk cut off, furnished the stem and the stern. Each of us selected one tree trunk and we worked over them till we had them hewn to the proper size and shape. The next step was to procure the ribs, and having located the dump where the mining town disposed of its refuse, we stripped the hoops from a number of empty flour barrels, trimmed them up a bit and the ribs were ready.

In exactly seven days from the time we started to assemble our materials, the canoe was ready for launching. The building of it was simple enough and the essential steps in this process were as follows. The length of the canoe was to be twenty feet. The stem and the stern posts which we

hewed out of the tree trunks were fitted to the ends of a kelson and spiked firmly down. The two strips to form the sheer strakes were fitted flush to these at the proper height and given their proper spread in the center to make the width of the canoe. To depress the center and give the sides of the canoe a proper sheer, it was only necessary to fasten a temporary crosspiece between them, and to insert another temporary fixture cut to the proper height between this crosspiece and the kelson. These two temporary supports fixed the width at the center and held the sheer strakes in their doubly bent position while the canoe was being built.

The next step was to put the ribs in position. The barrel hoops were soaked in water to make them more pliable. The center ribs were put in place first. They were slipped under the kelson five inches apart and the ends brought up outside the sheer strakes, to which they were lightly tacked. All the other ribs were put in position in the same way five inches apart. The adjusting of the ribs to a proper length and curve was the task which required some pains, for upon this the regularity and trimness of her lines would depend. We were building a canoe that would not only stand any kind of water that might be

encountered on the rivers, but that would be fit for sea work as well.

We had selected some dry spruce timber free from knots and at the sawmill we had these sawed up into quarter inch boards about four inches wide. To fit these boards to the ribs and fasten each piece firmly in its place to form the inner skin of the canoe was the most exacting part of our work. We cut and shaped each piece to fit its particular place on the bottom and sides, and each strip was made to overlap completely the stem and stern, to which all were fastened, as well as to the ribs, with copper tacks. Any irregularities about the seams were afterwards planed off to make a smooth and even surface for the canvas that was to form the outer skin.

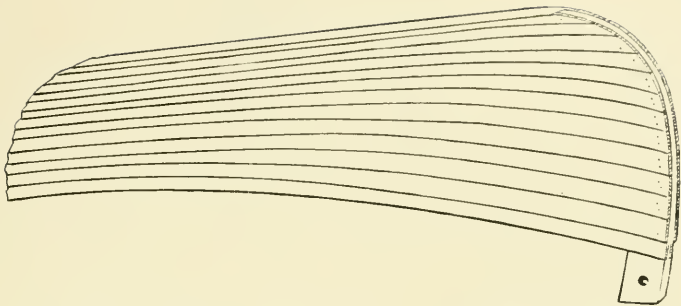
Stretching the canvas over this inner skin of thin planks was an operation requiring some care, since it must fit snugly at all points and be water-tight.

With the canoe in an inverted position, raised about two feet from the ground, we spread the sheet of canvas over it, and working one at each side seized the two edges at the exact center and drew it taut. While it was held firmly in this position each fastened his point with a copper tack to the sheer strake. Seizing each side again

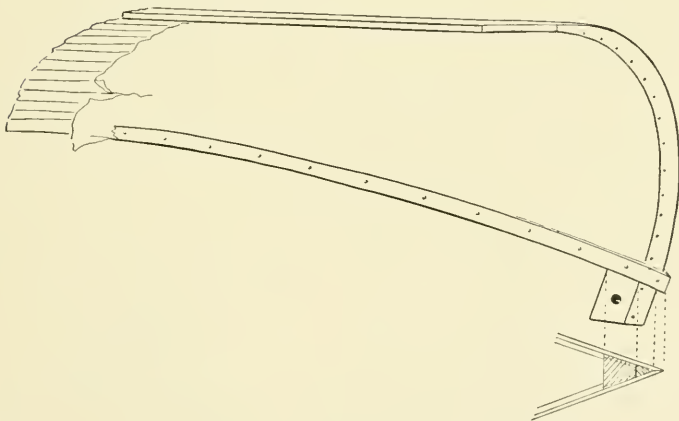
a few inches from the first tack we stretched the canvas again and tacked another point. In this way we worked in both directions from the center towards the ends. After proceeding about one-third way in either direction from the center, it was no longer possible to draw the canvas taut without making folds, owing to the narrowing body of the canoe. Therefore we let the increasing slack take care of itself until we had tacked the edges to the sheer strakes from end to end. That being done the slack was taken up by splitting the canvas along the bottom line for one-third the distance from each end, cutting out a long narrow V shaped piece and bringing the edges together along the center line. These edges having been tacked down, we had a snug fitting canvas skin covering the entire canoe.

At the ends the canvas was turned in front of the stem and stern, the edges brought together and fastened by two rows of tacks. These edges had to be pitched, but there remained the finishing of the gunwales where the canvas was as yet only tacked on the outside.

Turning the canoe right side up, we folded the slack edge of the canvas completely over the sheer strakes and securely fastened it down by a row of copper tacks on the inside. To protect the canvas



CANOE CONSTRUCTION; DIAGRAM SHOWING THE PLANKS IN POSITION



CANOE CONSTRUCTION; DIAGRAM SHOWING THE CANVAS SKIN, THE GUNWALES, THE FLAT KEEL AND THE FINISHED BOW

at this point, and stiffen the sides, we bent a pair of gunwales and fastened them securely to the outside of the sheer strakes.

After that we boiled rosin with tallow in a frying pan over a fire and pitched the seams in the canvas at the bottom and at the ends. We also added a keel, a strip of spruce three-quarters of an inch thick and four inches wide, laid flat and nailed firmly through the canvas and inner skin into the kelson. This was very important as a protection for the canvas when the canoe scraped over rocks or was dragged up the beach.

The ends were still unfinished and to make them as they should be, both as a protection to the canvas and to give them a sharp finish, we went again to the woods and each cut out a section from the trunks of a pair of small spruce trees with springing roots. These we hewed down with the axes and shaped to the curving ends of the canoe, where they were securely fastened by nails driven into the stem and stern posts.

A pair of strips three-quarters of an inch thick and an inch and a half wide were placed against the ribs on the inside six inches from the top and running the whole length on either side. The purpose of these was both to stiffen the structure and to give a rest for the thwarts. Three thwarts

were inserted and these were made of dried spruce seven-eighths of an inch thick and eight inches wide.

A stout cross piece was inserted near the bow, flush with the gunwales, and bored through at the center. Directly below this a block was fastened securely to the kelson and in this a socket was cut. The purpose of this arrangement was to enable us to step a mast if we ever had an opportunity of using a sail, for we made a sprit sail of light canvas. A little flush deck about eighteen inches long was built in the stern to serve as a seat for the steersman, and a pair of planks were fitted in the bottom at either side of the kelson to receive the weight of the cargo and protect it from any water which we might chance to ship.

The outside was given three coats of paint and our canoe was ready for launching. From the time that we began to assemble the materials till the last coat of paint was laid was just seven days. We had a canoe in which we could go anywhere. It weighed 180 pounds and it was entirely the work of our own hands, which added greatly to our pleasure and satisfaction.

TABLE OF DISTANCES

During the journey between Fairbanks on the

Tanana and the mouth of the Kuskokwim we kept an accurate record of the run each day. On the basis of these runs, taken in connection with the currents in the rivers, the distances were estimated.

Between Fairbanks and the mouth of the Kantishna, running with the current, our rate of travel was about five miles an hour. From the mouth of the Kantishna to its fork we traveled against the current at about one and a half miles per hour. From the fork to Lake Minchumina our rate was reckoned at two miles per hour. From the Portage to the mouth of the Kuskokwim our rate averaged five miles an hour on the different stretches of the river. According to these calculations the distances were as follows.

	HOURS	MILES
Fairbanks to the Kantishna.....	27	135
The mouth of the Kantishna to its fork.....	101½	152
Kantishna Fork to Lake Min- chumina.....	37	74
Distance across Lake Minchumina	12
The Portage.....	..	10
From the Portage to the Upper Istna mouth.....	60	300
Upper Istna mouth to the Keklone	6	30
Upper Istna mouth to the Tacotna	16¼	82

	HOURS	MILES
Upper Istna mouth to the Holik- nuk.....	46	230
From the Holiknuk to Kolmakoff.	18½	92
From Kolmakoff to Ogovik.....	11	55
From Ogovik to Mamtrelich.....	18½	92
		1,264

Following is the journal kept from day to day.

- June 26. Left Fairbanks in canoe at 4 P. M.
Camped 10 miles below Chenoa.
Made 4 hours.
27. Camped just below Nenana. Very
wet. Made 8 hours.
28. Started at noon. Thunder storm came
up. Camped at 5 P. M. Made 5
hours.
29. Broke camp at 9. Passed Tolovana at
7 P. M. Camped on bar at mouth of
Kantishna at 8.30. Made 11 hours.
30. Cut poles for poling up stream. Mos-
quitoes very bad. Windy. Sparks
caught in mosquito tent, which nearly
burnt up. Able to repair damages
all right. Broke camp at 1 P. M.
and traveled till 6. Current about

- 3½ miles per hour. Stopped one hour for lunch. Made 4 hours.
- July 1. Broke camp at 11. Camped at 7.30. Stopped one hour for lunch. Made 7½ hours.
2. Broke camp at 9.20. Stopped one hour for lunch and camped 6.20. Made 8 hours.
3. Broke camp at 10.30. Stopped one hour for lunch and camped at 7.30. Made 8 hours.
4. Broke camp at 10.30. Stopped 1 hour for lunch and camped at 5.30. Made 6 hours.
5. Broke camp at 10.20. 1 hour for lunch and camped at 5.30. At noon we passed the mouth of the Toklat. The few Indians camped here are all down at Tanana. Made 6 hours.
6. Broke camp at 1.15. Stopped for lunch at 4.45 and started at 5.45. Camped at 8.30. Made 6¼ hours.
7. Went hunting. Saw no game except a few ducks. - There are many tracks of moose on the bars, but they seem to have gone back into the hills to avoid flies. Bear tracks on bars.

- July 8. Broke camp at 9.15. Stopped 1 hour for lunch. Camped at 6.15. Made 8 hours.
9. Broke camp at 9.45. Stopped 2 hours for lunch and rested half hour in afternoon. Camped at 7. Made $7\frac{1}{4}$ hours.
10. Broke camp at 10.15 and camped at 7, having stopped $2\frac{1}{2}$ hours. Passed the Bear Paw at 4.30. Made $6\frac{1}{4}$ hours.
11. Broke camp at 12.15. Camped at 8, having stopped $1\frac{1}{2}$ hours for lunch. Made $6\frac{1}{4}$ hours.
12. Feet have become blistered on top from going barefoot in sun and cold water. Stayed in camp.
13. Broke camp at 9. Stopped at 7.15, having run altogether $8\frac{1}{4}$ hours.
14. Broke camp at 10. Stopped 7.45, having run $7\frac{1}{4}$ hours.
15. Wet and feet sore. Stayed in camp till 3.13. Broke camp and went on $1\frac{3}{4}$ hours and came to deserted town of Roosevelt; entered the best house and camped there.
16. Very wet. Stayed in camp.

- July 17. Very wet. Stayed in camp.
18. Left at 11 and encountered very swift water. Poled five hours and made camp. Denali looms very large and splendid right ahead, free from clouds and white from base to summit. It rises from a low level country which emphasizes its height.
19. Left camp at 11.45. Poled $2\frac{3}{4}$ hours and stopped for lunch. Poled $\frac{3}{4}$ hour and reached the fork of river. The left fork is very swift and muddy with glacial silt from the high snow covered mountains to the south. Denali looms very big and looks about 30 m. away, white from base to summit. The right fork is slack water and more clear. We followed the right fork, which is the Kantishna proper, and changed from poles to paddles on account of slack water which permits of paddles. Camped two hours above fork. Made $4\frac{1}{2}$ hours.
20. Broke camp at 10.30. Passed Birch Creek in 1 hour. It comes in from the left and is clear water and more swift than Kantishna, which now

becomes very slack. A deserted Indian cabin at mouth of Birch Creek. Traveled till 8 P. M. and camped in bush. There are no longer any sand-bars—clay banks with willow and alder and birch. Made $8\frac{1}{2}$ hours.

- July 21. Broke camp at 11. In 2 hours we came to a good duck pond on left. Shot three mallard and 1 widgeon. Went on $\frac{1}{2}$ hour more and stopped for 2 hours for lunch. Paddled till midnight. Made about 10 hours.
22. Broke camp at 2 P. M. Stopped $1\frac{1}{2}$ hours for lunch and paddled till midnight. Camped on muddy bank in tall grass. Banks now very low and muddy. Whole country very flat—full of ponds, full of game. Made 8 hours.
23. Broke camp at 2, and camped at midnight. Made 7 hours.
24. Broke camp at 3.15. Shot one goose today, ducks in plenty. Reached lake at 7 P. M. Made $3\frac{1}{2}$ hours. At outlet of lake a muddy stream comes in on left from glaciers on the moun-

tains. This is the stream that carries silt into Kantishna. Once into the lake the water is clear. Camped on right bank. Made $3\frac{1}{2}$ hours.

- July 25. Paddled across lake and climbed a bluff, from which we could see a thin column of smoke on west shore, crossed in heavy shower and found Indian camp, 2 men, Luke and John, with three women and two children; all other Indians away hunting. Made presents and camped on point some distance south from Indians.
26. Indians came and brought presents of moose meat and white fish. Denali bears S. from lake covered with clouds.
- 27-31. During these days we explored the borders of the lake and Kwalana River, made maps, traded and talked with the Indians. Weather very fine. Skies usually clear with light breezes and occasional high winds.
- Aug. 1. Crossed head of lake to portage, accompanied by the two Indians and 7 dogs. Carried all but canoe 2 miles to a small lake. Camped. Pond about $\frac{1}{2}$ mile across.

- Aug. 2. Indians returned home during night with dogs. We carried the canoe to the small lake and went across with 2 small packs to find the portage on other side. Found trail and went on with packs 4 miles. Returned to camp.
3. Passed all over pond and carried all but camp outfit $1\frac{1}{2}$ miles higher up to dryer ground, 2 trips.
 4. Packed camp and outfit in two packs weighing about 95 pounds each, packed these on 4 miles to first cache. First mile of portage very soft ground, niggerhead and muskeg, then low hill, then soft ground and water, another low hill and soft ground, another low hill. First cache on near side of this last low hill.
 5. Brought rest of outfit to camp—first cache.
 6. Packed all but tent and sleeping outfit and canoe down to the banks of Kuskokwim.
 7. Finished portaging and pitched camp on bank of Kuskokwim.
- The portage is 10 miles in all. The first two miles between the big lake

and small lake is very soft and wet. The rest is similar at intervals between the hills. We made 7 packs averaging 95 lbs. each besides canoe, which weighs 180 lbs. The Kuskokwim at this point is a small stream of clear slack water. Current about $1\frac{1}{2}$ miles per hour.

- Aug. 8. Started down the Kuskokwim at 8.30. Shot 5 geese. Lunched on a sandbar in shower. In the afternoon a very heavy rain. Storm came up, the rain falling continuously in great quantities and nearly filling the canoe. In the middle of the storm we entered the first rapid and as we shot down, a loud peal of thunder caused some confusion of sound as it mingled with the noise made by the water. It was the first peal of thunder we heard since the day after leaving Fairbanks and as it mingled with the other noise it produced a curious effect. We became thoroughly wet by the rain. Shot two more rapids and some time afterwards, the rain still continuing, we

saw a deserted cabin on the right bank and we stopped there at 6.30. Made stove out of old tin cans and dried out things. Made 10 hours.

- Aug. 9. Rain continued. Stayed in camp.
10. Traveled 9 hours and passed four more rapids. Passed Indian encampment on left bank. Three huts. One old man in encampment. Others all away for the hunting.
11. Traveled 12 hours.
12. Traveled 4 hours and met 2 men in 2 boats. One had spent the winter alone trapping on the Tacotna. The other had spent three years alone on the upper South Fork. He had floated down in the spring and met the other coming up; both were trappers and they made a partnership to go to the upper Kuskokwim for next winter's trapping. Wanted to know the date. Half an hour later we came to a stream on the left which brings in a great deal of silt from the glaciers and is swift. From this point we saw Denali E.S.E. Made 10 hours.

- Aug. 13. Started at 7.30. Lunched at 11.30.
Stopped at 10.15. Made $11\frac{1}{2}$ hours.
14. Started 10. Camped 9. Made 9 hours.
15. Started 6.30. Traveled 3 hours to the East Fork (Chedotlotna) and 1 hour later had lunch, $1\frac{1}{4}$ hours afterwards came to the upper outlet of South Fork (Istna), which splits in two, these mouths being $\frac{1}{4}$ mile apart. In three hours more we arrived at the lower outlet of the Istna, where we met an Indian in a canoe. Made $11\frac{1}{4}$ hours and camped at a large tributary coming in on the left. Here we found 2 Indians who have a small trading post.
16. Made $9\frac{1}{2}$ hours.
17. In one hour came to the Tacotna on right. Here is a small trading post established in the spring. Also some tents of prospectors on their way up to the Innoko across the divide between the Kuskokwim and the Yukon. Gold discovered on Innoko this spring. Made 4 hours.
18. Wet. Left camp at 10. Passed Indian

family in tent. Woman sick. Later passed Indian village, nearly all sick. Made $6\frac{1}{4}$ hours.

- Aug. 20. Started at 8. Came on very wet. Ran 4 hours. Camped below an Indian village.
21. Made 6 hours and arrived at mouth of Holiknuk River, where the Sikmiut Indians have their village. Received by Chief.
22. Stayed in the Sikmiut village, picked up some specimens, made photos and measurements, about 60 people in village. Secured many notes and some linguistic material.
23. Continued as yesterday.
24. Started at 1 o'clock. Wind fair. Stopped to cut mast and rig sail. Wind died out. Arrived at another Indian village at 5.30. Camped. Made $4\frac{1}{2}$ hours.
25. Started at 8. Made 10 hours. Sailed when we could get fair wind.
26. Passed Kolmakoff. Made 8 hours.
27. Passed Ohagamiut and camped 10 miles below Yukon portage and about 1 mile below the village of Ogovik. 7 hours.

- Aug. 28. Strong head wind. Visited village of Ogovik, and started at noon. After rounding a bend the wind came fair and we sailed till 7. Wind fresh and we found a snug camping place by good luck. Made 6 hours.
29. Blew gale from west all day, with heavy showers holding us in camp.
30. Still wet and windy, but wind is fair and we ventured out under sail. Soon found we could not carry all the sail and we ran under a bank and put in a reef. Wind kept freshening. River wide and full of bad bars. After 2 hours' sailing wind freshened more, water rough, rising wind headed us off and we were forced to run for shelter into a slough on left bank. Camped on bank of slough. Made 3 hours.
31. Blew gale with rain all day. Stayed in camp.
- Sept. 1. Weather fair. Started at 8 and reached Mamtrelich at 6.30. Made 9½ hours.

APPENDIX B

THE POPULATION OF NORTHERN ALASKA

I

THE MINKHOTANA

In a country with so large an area and so diversified a surface it is natural to find different types of aboriginal inhabitants. Leaving out the Aleutian Islands, which are properly classed ethnologically with Alaska, the inhabitants of the territory represent three distinct ethnic groups distinguished on physical lines, in elements of culture and in language. In all these respects they differ greatly from each other. Of these three groups, one is confined to the southeastern coast strip and the adjacent islands and its members are known as the Tlingit and the Haida. With these people, who occupy a world quite different from the Alaska in which we traveled, we are not concerned in this article. The people with whom we came in contact were members of the Tinneh family and members of the Eskimo or Innuvit family.

The great central area is occupied by tribes

who, in their own dialects, are variously called Dené, Tinneh, Tená and Taná. They inhabit the great river systems of the Yukon, the Kuskokwim and all the waterways and all the game country in the interior, and they are usually referred to collectively by writers on ethnology as Athapascans.

It is one of the remarkable facts connected with the distribution of the natives of this continent that the Tinneh of Alaska are related by language to the Apaches and the Navajos. The name by which the latter call themselves is Diné, and a comparison of their vocabularies shows that many words have a close correspondence in the two languages and that the grammatical structure is similar, but the resemblance is not so close that an Indian from the Rio Grande and one from the Yukon could understand each other's conversation. It is doubtful whether the Navajo and the Tinneh meeting each other would discover that there was any relationship between their languages. It is nevertheless a well-known and long established fact that such a relationship exists.

So far as their material culture is concerned, the Tinneh Indians do not resemble either the Apache or the Navajo. Their arts and industries

are entirely dissimilar. Weaving, for instance, which is well developed among the Navajo, is unknown among the Athapascans of the North.

There is evidence that the Alaskan Tinneh at one time made rough pottery, fragments of which have been found on ancient camping places along the rivers, but the art has been completely forgotten. They make no basketry, and birch-bark and wood are the materials from which all of their utensils are made. Their metal-work is confined to the making of iron knives and spear-heads, the material being obtained in trade from tribes on the south coast who were formerly in contact with the Russian traders. There is evidence that in earlier times these blades were made of native copper. In any case it is noteworthy that the iron implements made by the inhabitants of the interior of Alaska show a high grade of workmanship. The Indians live by hunting and fishing and have domesticated the dog. Before they adopted white man's attire they wore a long fringed coat over leggins with moccasins attached. The cut of the man's coat was the same as that of the woman, except that the man's was pointed before and behind and the woman's was rounded. These garments were made of deerskin dressed without the hair and

decorated with porcupine quill embroidery. Men and women wore ornaments of Dentalium shell obtained in trade from the tribes adjoining the southern coast. These shells served also for money. The Tinneh tribes have their medicine men and sorcerers and believe in a multitude of evil spirits. They also believe in the existence of good spirits. The healing of the sick is within the power of the medicine man who, by his incantations and contortions, displays great zeal in his wrestling with the evil spirits that cause disease. Personal observations which I have recorded in Chapter IV made it clear to me that the Minkhotana at Lake Minchumina have images in the intervention of which they believe. Their belief in the efficacy of their own religious practices has been known to survive their conversion by the missionaries.

The different tribal divisions of the Tinneh family occupy different territories and are designated by tribal names. Thus the people living on the Yukon between the Sunkaket River and the mouth of the Tanana call themselves Yukon-ekhotana, which means the people of the Yukon, a tribal name which ignores their neighbors living above and below on the same stream. The tribe that occupies the Tanana Valley call

themselves Tenan-Kutchin, meaning mountain people, because that river cuts through the mountains. All the Tinneh tribes had formerly a common trading territory called Nukluyaket, situated on the Yukon at the confluence of the Tanana. On that neutral ground the Tinneh tribes from different parts of the territory used to meet once a year to trade. Nukluyaket is the triangular bit of land found above the Tanana where it joins the Yukon.

The other group of Alaskan natives with which we are concerned is the Eskimo and they occupy the coast from Prince William Sound on the North Pacific all the way round the shores to Bering Sea and the Arctic Ocean. Their villages are always found on the shores of the sea or a short distance up from the mouths of the rivers. Everywhere (except at one point on Cook Inlet) they have kept the Tinneh away from the coast. They are in contact with the Tinneh tribes at many points and some fierce conflicts are said to have taken place in the past. One of the points of close contact was on the Lower Kuskokwim River, where the Eskimo penetrated more than two hundred miles from salt water and where they completely subdued the tribe that formerly inhabited that part of the valley.

This, I believe, is the farthest point to which the Eskimo are known to have penetrated from the coast and to have formed their own settlements. This conquest was not effected without a struggle. At the mouth of the Kuskokwim and on the shores of its estuary there was concentrated until early in the nineteenth century a large Eskimo population, people of robust physique and energetic temperament. The river from its source to within about a hundred and fifty miles from the mouth presents particularly attractive features, well adapted to the habits of life of the Tinneh Indians, for it has good timber with stretches of open rolling country and neighboring uplands, and it was formerly a favorite game country. This valley, therefore, became a stronghold of what appears to have been two closely related tribes whose members were masters of the interior, including the divide between the Kuskokwim and the Tanana and the country lying over against the Alaskan range. In their remote fastnesses in the far interior about the head of the Kuskokwim River they were free from intrusion, and among their neighbors on all sides they acquired a reputation of great ferocity. Thus the Russians, during the period of their occupation of the coast, spoke of the Indians of

the Upper Kuskokwim as a fierce and warlike tribe of whom they related many wild tales, and who were vaguely known to them as the Khuilchan or Kolchane, "the far away people." This notion, working upon the imagination of native and foreigner alike, obtained general belief and was firmly established and preserved in Alaskan tradition, prevailing as late as 1905. During that year I met the Russian Bishop of Alaska on the Yukon and when I spoke of making a journey to the Upper Kuskokwim he gave it as his opinion that this would be impossible on account of the fierce and hostile Indians who had their stronghold there and who did not tolerate the appearance of any stranger among them. This opinion was supported on all hands by the white people, but not by the Indians of the Tanana who were no longer afraid of their western neighbors.

There is no data at all available for determining even approximately the population of the Upper Kuskokwim in early times. Petroff, writing in 1882, thought that the numbers at that time did not exceed 200. It is not clear on what ground he based his estimate. His statement runs as follows.

"The length of the Kuskokwim is not

known, its headwaters having thus far been untouched by the explorer or trader. We have the statement of natives to the effect that the Upper Kuskokwim River flows sluggishly through a vast plateau or valley, the current acquiring its impetus only a short distance above the village of Napaimute. From this point down to the trading station of Kalmakovsky and to the southern end of the portage route between this river and the Yukon the banks are high and gravelly, and chains of mountains seem to run parallel with its course on either side. This section of the Kuskokwim valley is but thinly populated, though apparently the natural advantages are far greater than on the corresponding section of the Yukon. The soil is of better quality, and is sufficiently drained to permit of a more luxuriant growth of forest trees, shrubs and herbs."

Speaking of the inhabitants of the interior, he writes.

"The Khuilchan, or Kolchane of the Russians, occupy the vast interior mountainous regions bordering upon the upper Kuskokwim, the divide between the latter river and the Tennenah in the north, the main Alaskan

range in the east and south, and the country of the Nushegagmute in the west. They are nomads, roaming about at will from river to river, and from one mountain chain to another, selling their skins at the trading posts nearest their hunting grounds. This last custom has given rise to an overestimation of their number, as the same tribes have been accounted for as trading at three or four different stations. Their whole number at present probably does not reach 200. The many traditions of their treacherous and warlike character handed down to us by the Russians may safely be looked upon as fabulous. Living as they do, they could never have been a numerous people or the cause of danger to their neighbors. It is said that they have some permanent villages on the headwaters of the Kuskokwim, but no white man has ever beheld them. Such of the women as have been seen at the various trading stations were of repulsive appearance, and gave evidence of a life of hardship and abuse. The Khuilchan use birchbark canoes and do not make use of the dogs as draught animals."

In this account of the Indians of the upper



A TINNEH INDIAN WITH SPEAR

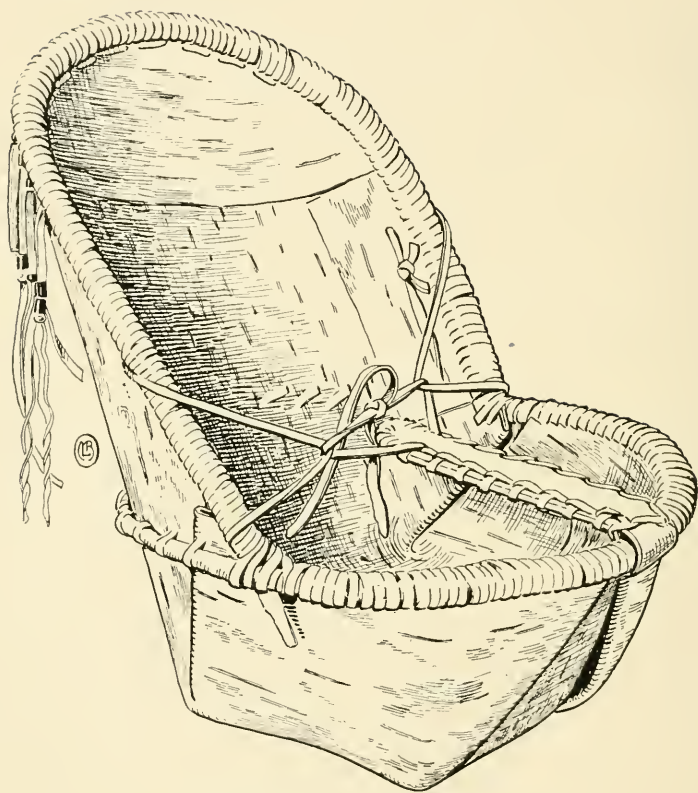
Kuskokwim there appears to be some misconception. They are no more nomadic than the other Tinneh tribes of Alaska and if their number was not more than 200 in 1880, it was because they had become greatly reduced by disease during the quarter of a century preceding that date. Although no exact figures can be based on tradition, especially on tradition that does not deal in figures, it is worthy of note that the Indians whom we encountered on Lake Minchumina insisted that they had formerly been a numerous and powerful people, that sickness and death had visited their fathers years before and continued to be with them till today. I was unable to obtain a count of the inhabitants living on the upper Kuskokwim in 1907 because nearly all were away at the hunting. I believe, however, that, counting those on the lake, there are on the upper river perhaps 100 souls, hardly more.

The native population of Alaska is not known and there are no trustworthy methods of computing it, but the whole number would, at the present time, be small compared to the vast areas which they inhabit.

The Tinneh tribes and the Eskimo were stated in the census of 1880 to form an aggregate popu-

lation of 18,469, of whom 3,062 were said to be Tinneh. A government report for 1903 gives still larger figures, but on the other hand there are very strong reasons for believing that a count of the Eskimo and Tinneh inhabitants of Alaska at the present time would fall very far below these figures. Both the interior tribes and the Eskimo have disappeared very rapidly and continuously since the discovery of the Territory. The cause of the disappearance of the Tinneh has been the presence of white trappers, traders and prospectors on the rivers. The disappearance of the Eskimo, which began with the discovery of the country by the Russians, was accelerated by the first cruises of the whalers into the Arctic. In both cases the trouble has been greatly aggravated since the discovery of gold on the rivers of the interior and on the beaches of Bering Sea. It has been notorious that the attitude of the white men has been that the native has no rights which they are bound to respect.

The name of the river, Kuskokwim, is an Eskimo word, the Minkhotana call it the Tichininik. It is natural that in this case the Eskimo name should be the one to survive because only its lower course has been known, and because at



BIRCHBARK BABY-CARRIER

the time of its discovery by the Russians in 1832, the Eskimo had taken possession of and occupied not less than two hundred miles of its course. From these aggressions the Tinneh, reduced in strength, withdrew towards the headwaters where for a time they maintained themselves in strength and sustained the reputation for ferocity that I have already alluded to. At what time the ravages of disease first struck them it is impossible to say, but it is probable that the beginnings of these visitations corresponded with the appearance of the Russians on the coast and the consequent affliction of the old enemies of the Tinneh, the Eskimo. Diseases introduced with terrible effect among the Eskimo were no doubt carried to the far interior where they swept away the Indians in their distant fastnesses. In 1848 a terrible epidemic of smallpox swept over Alaska, and since that time successive visitations of disease, becoming more frequent, have nearly left the country of the Upper Kuskokwim without a population.

The Yukon, unlike the Kuskokwim, preserves today the name given it by the Tinneh Indians. The Eskimo called it the Kuichbuk, which means Big River, and by that name it was known to the Russians until some Hudson Bay traders

crossed over from the Mackenzie and adopted the name Yukon, which was used by the Tinneh living on that river. The first Russian to enter the Kuichbuk was Glasunoff, who, in 1833, went up as far as Nulato. In the days of the first traders the population living on the shores of the Yukon, though not numerous, was much larger than at any subsequent period. At the present time there are only a few individuals between the Canadian boundary and the Anvik River, where the Eskimo territory begins. About this point on the river the Eskimo and the Tinneh have to a considerable extent intermingled and where this has taken place the prevailing customs are largely derived from the Eskimo. Even some of the Tinneh villages that have come in contact with the Eskimo have discarded their manners and customs and even their language and adopted those of the Eskimo. This condition obtains wherever the two races have come in contact. The Eskimo culture is the more virile and aggressive and when the two meet always tends to replace that of the Tinneh.

The Kuskokwim is not so large as the Yukon, but it is, nevertheless, a large river. Like the Yukon, it has discharged so much silt into Bering Sea that a bench has been formed on the ocean



IMAGE USED BY THE MINKHOTANA

bed opposite its mouth for many miles out to sea. The water is so shallow on this bench that at low tide it is scarcely deep enough to float a rowboat. Sea going vessels, therefore, cannot enter either of these rivers and even light draught flat-bottomed river boats have difficulty in feeling their way through the winding sloughs and narrow passages into the Yukon, a stream as large as the Mississippi. The approach to the Kuskokwim is even more hazardous.

As they near their lower courses the Yukon and the Kuskokwim approach each other gradually until at about 100 miles above their mouths there remains only about twenty miles of flat tundra between them. Moreover, there is at this point a chain of small lakes stretching across this neck of land and these lakes are connected by streams, except at two short intervals. It is possible, therefore, to pass a canoe over from one river to the other with only two short carries. This is what is known as the Yukon portage, a route that from time immemorial was used by the natives and later by the fur traders of the lower river. According to the native tradition it was for the possession of this passage that the Eskimo and the Tinneh fought in the beginning of their long struggle. This was affirmed in

answer to questions by the Chief at Sikmiut and by the headmen at Ogovik. The former possession by the Tinneh of the passage between the rivers may account for a circumstance reported by Dall to the effect that the Indians on the lower Yukon, between the Anvik River and Nulato, are members of the same tribe as those on the lower Kuskokwim. Further than this, he includes in the same classification all the unknown Indians on the upper Kuskokwim and the country adjacent. To this group he applied the name Kayukhotana, a word which he translates, Lowlanders.

While such a designation would correctly describe the inhabitants of the shores of the lower Yukon within the limits described and to inhabitants of the lower Kuskokwim living in the region of the portage, it would hardly apply to the inhabitants of the upper Kuskokwim or any part of that valley above Kolmakoff. I was not able to confirm or to disprove the accuracy of Dall's identification of the Tinneh people on the lower Kuskokwim with the Indians of Nulato. If it is true that these two groups originally formed a tribal unit, they have long ceased to have any connection with each other. There appears to be a conspicuous difference between

the fine, vigorous and thrifty people of Sikmiut and the poor people about Anvik and Nulato. The traditions of the Sikmiut, wherever the Tinneh outcrop appeared through the superimposed Innuited stratum, pointed to the upper Kuskokwim and away from the Yukon. That tradition is not clear, but it is sufficient to identify the Tinneh element at Sikmiut in its original condition as a separate group having its own hunting grounds and its own chief. They occupied the Kuskokwim valley from the point where the Eskimo held them in check up to the Istna and including that stream. They were in touch with and closely related to the Minkhotana who occupied the Lake Minchumina country, the Upper Kantishna river, and the Upper Kuskokwim or, as they call it, the Tichinik.

MINKHOTANA NUMERALS

- 1 chel-ke-ka
- 2 teke
- 3 toke
- 4 tenke
- 5 cheo-lin-ala
- 6 nilka-toka
- 7 tono-no-teka
- 8 nilka-tenke

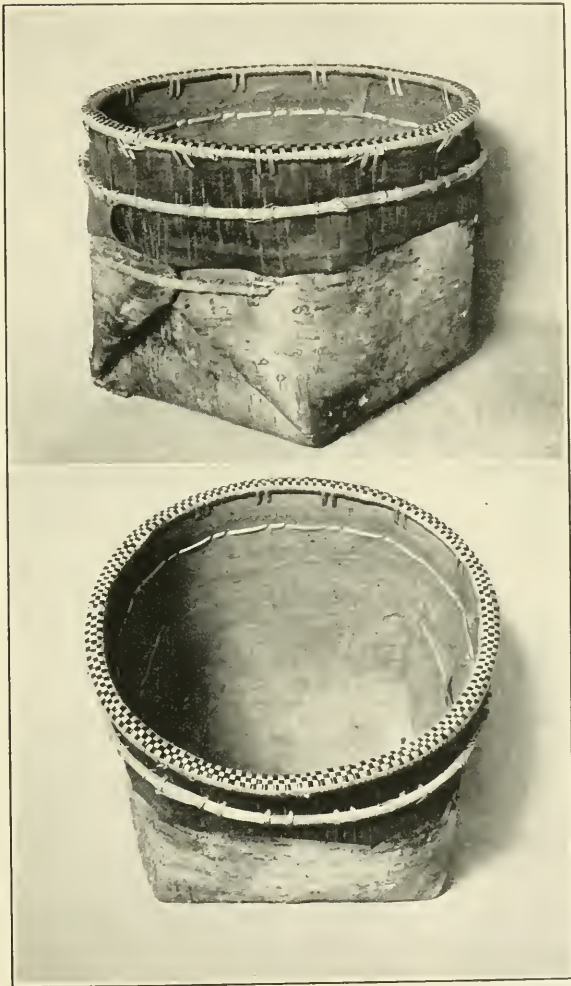
9	che-kilok-kilaye
10	che-loho-tal-ton
20	ento-tal-ton
100	che-loho-tal-ton-tson
200	ento-ho-tal-ton-tson

II

THE KUSKWOGAMIUT

On the lower Kuskokwim River and its estuary, from Sikmiut to the sea, live a group of Eskimo who, in their own language, are collectively called Kuskwogamiut, which simply means the people of the Kuskokwim. In speaking of a village they usually, though not always, employ the same ending -miut, which directs attention to the people rather than the place. Thus the name Mamtrelichmiut is usually employed in speaking of a certain village. Literally it means the people of Mamtrelich. When they were first heard from the Kuskwogamiut were very numerous and lived in a multitude of villages along the banks of the river and between it and the swampy tundra. According to trustworthy report, some of the larger villages contained more than a thousand inhabitants each.

The first European to come in contact with



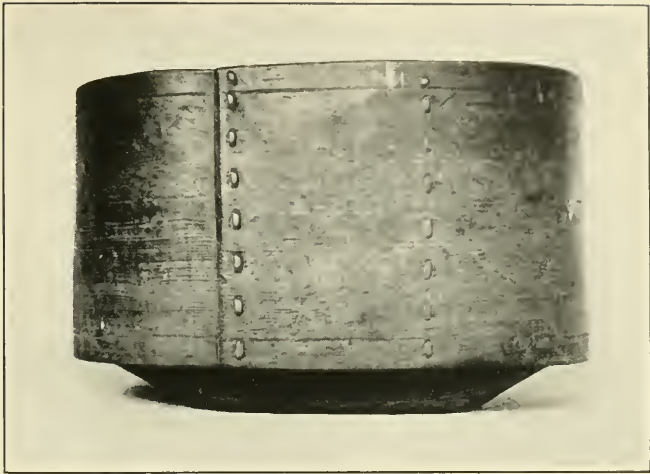
TWO VIEWS OF A BIRCHBARK VESSEL MADE BY THE SIKMIUT

the Kuskwogamiut was Korsakoff, who visited the mouth of the river in 1818. Kolmakoff, the commander of the fort at Nushagak, followed in 1820, but neither of these casual visits left any mark upon or established any connection with the native. In 1832 Lukeén built his post 200 miles from the mouth of the river. In 1835 Kolmakoff traveled overland from Bristol Bay to Norton Sound, crossing the Kuskokwim at its mouth. In the same year Glasunoff explored the mouth of the river and visited Lukeén. In 1841 Lukeén's fort became the redoubt of Kolmakoff and continued to be used as a trading post till 1866, when it was dismantled. During the years from 1835 till the first decade of the twentieth century occasional traders came in contact with the Kuskwogamiut at isolated points, but these points of contact were very few and far between. Kolmakoff was situated at the apex of their domain, where there was only an outlying population inhabiting a few scattered villages. The main population was congregated in numerous villages, almost contiguous to each other along the shores of the funnel-shaped mouth where the river discharges into the bay and on the numerous sloughs and waterways that wind endlessly over the low lying and swampy tundra.

The whalers gave this part of the coast a wide berth owing to the shallow waters that stretch for miles outside the mouth of the river, and the Kuskwogamiut thus escaped the harsh and fatal experiences inflicted on many of the unfortunate people from Norton Sound to Point Barrow and eastward to Herschel Island as a consequence of the periodical visits of the whalers. As for the gold hunters, both on account of the difficulty of approaching the mouth of the river, and on account of the wild stories about the fierce natives of the upper river, they did not reach the Kuskokwim till 1907, a date which, by chance, coincides with the year of our visit.

Missionary enterprise is responsible for the station at Bethel with its branch at Quinhagak on the bay. Along the coast west from the bay, at a place called Tununa, the Jesuits have a mission where Father Barnum labored for twelve years and where he collected the material for his grammar of the Innuït language.

When one considers the wide stretch of desolation, the forlorn and pathless tundras that sweep to the level horizon around these missions, and when we consider that the native villages are dotted over this wide expanse, trackless as the ocean, it is not to be wondered at that missionary



A WOODEN VESSEL MADE IN TWO PIECES



A WOODEN VESSEL MADE IN A SINGLE PIECE

influence has not reached many of the Kuskwoga-miut or left much impression on them.

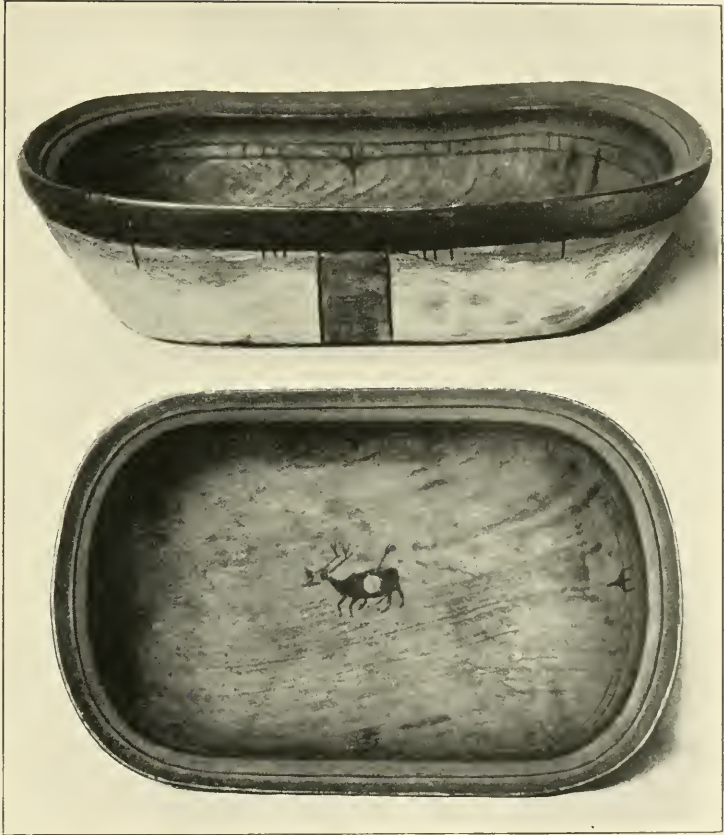
Their villages are protected in a peculiar way. The river widens out at its mouth till the inhabitants on one bank cannot see the opposite shore. Its muddy current, backed up by the tide, deposits silt along the margins where the turgid water laps the swales. Alder, willows, small poplars and tall rank grass take root in this soft soil and their entangled growth of roots forms a fringe that extends only a hundred yards on an average from the river bank. Beyond this fringe is the oozy tundra with its rank growth of moss many feet deep, where there is no deposit of mud for the willows and alders to take root. The banks thus consist of natural dykes or levees which furnish a dry footing along the margins of the river. On this rim many of the villages are built. At other places there are slight rounded elevations, dry spots on the tundra, each occupied by a village. When the tide goes out there is apt to be a wide stretch of mud flat and a very oozy bank, between the river and the village that is built on its banks, but when the tide is high your boat comes on a level with the land. As for the villages built near the irregular waterways that intersect the tundra, the tortuous

paths by which they are reached can be followed only by the native himself. The stranger is liable to get lost in the swamp.

In winter, of course, everything is different. The river and tundra alike are covered with snow and if you know your way you can go anywhere with dog sleds.

When we consider their natural environment, and especially their peculiar geographical isolation, it is easy to understand why the Kuskwogamiut have remained immune from contact with the outside world; and it is, therefore, the more deplorable that even their isolation did not protect them from the baneful and infectious influences of the white man's presence in Alaska. Diseases such as smallpox, measles, pneumonia, tuberculosis and other lethal and epidemic scourges have from time to time been passed on through the native communities from one part of the coast to another until even the Kuskwogamiut in their relative security were made to suffer.

Of course they died formerly and they always had their diseases. There is evidence that they often ate too much and suffered very serious consequences. There is some reason for thinking that they were so reckless at their winter feasts that they sometimes ran short of provisions



A WOODEN VESSEL MADE IN A SINGLE PIECE

before the winter was over and starved. They undoubtedly had other disastrous experiences as well in the good old times, but epidemic scourges such as those enumerated that swept away whole villages—whole rows of villages—in a season were unknown till the white man came to Alaskan shores.

The older traditions of the natives mention big villages of more than a thousand inhabitants. In the United States Census for 1880, Petroff gives a list of forty-one villages on the lower Kuskokwim River and the bay with a population of 3,670. The largest village listed had a population given as 314.

In 1907 the number of villages in the same area was not more than twenty. Abandoned villages strewn with bones bore witness to what had happened. One of the worst and most cruel visitations of the later period was an epidemic of pneumonia in the summer of 1900 that must have killed a thousand on the Kuskokwim alone and that left many villages empty. As it was impossible for us to visit all of the inhabited villages, I am unable to give a count of the population, but from all the information I could gather I was led to believe that the population of the lower Kuskokwim from Kolmakoff to the outer bay was not more than 2,000.

DRESS

In their dress the Kuskwogamiut resemble the Eskimo of Cape Prince of Wales, but they also present points of difference. The undergarments are made of Arctic hare and squirrel skin with fur inside. The outfit consists of a long shirt with sleeves and worn outside a pair of trousers. Over these are worn the long loose tunic with sleeves that reaches to the ankles. In cut this garment is much the same for men and women except in materials. Men's tunics are usually made of squirrel, marmot or muskrat skins. Women's are usually made of reindeer skin very beautifully tanned. Men's tunics are frequently decorated with strips of wolf skin attached at one end and hanging loose all up and down in front and behind.

In winter this garment is provided with a hood to draw over the head. The woman's garment is much more elaborately and tastefully decorated with strips of wolverine skin that dangle in front and behind and is also in the finer garments provided with double trimmings of wolf and wolverine skin according to the taste of the wearer, very much like the one possessed by the young girl at Sikmiut, whose costume is a very good example of that of the

well-dressed Eskimo woman, though she herself was a Tinneh with perhaps a small admixture of Eskimo.

The trousers of both sexes are usually made of deer skin, and the boots are made of deer skin trimmed with wolf and wolverine skins about the top. The boots of the men come up to the knee over the trouser; those of the women are shorter. Sometimes the hair is turned out and sometimes it is turned in. The soles are made of sealskin. Uppers and legs are often very tastefully decorated with strips of dyed leather embroidered with moosehair. Inside the boots are worn socks made of grass. These articles are worthy of special notice. Along the margins of the sloughs grows during the summer a long coarse grass. This is cut and dried by the Kuskwogamiut and stored in bundles for subsequent use in the manufacture of socks, mats, screens in the houses and sails for the skin boats. These are made by the women, and they are very well and neatly made. The grass socks are the warmest and most comfortable covering for the feet that any people have yet devised. It is the only thing that will keep the feet warm during very cold weather in the snow. If you haven't a pair of grass socks you may take a

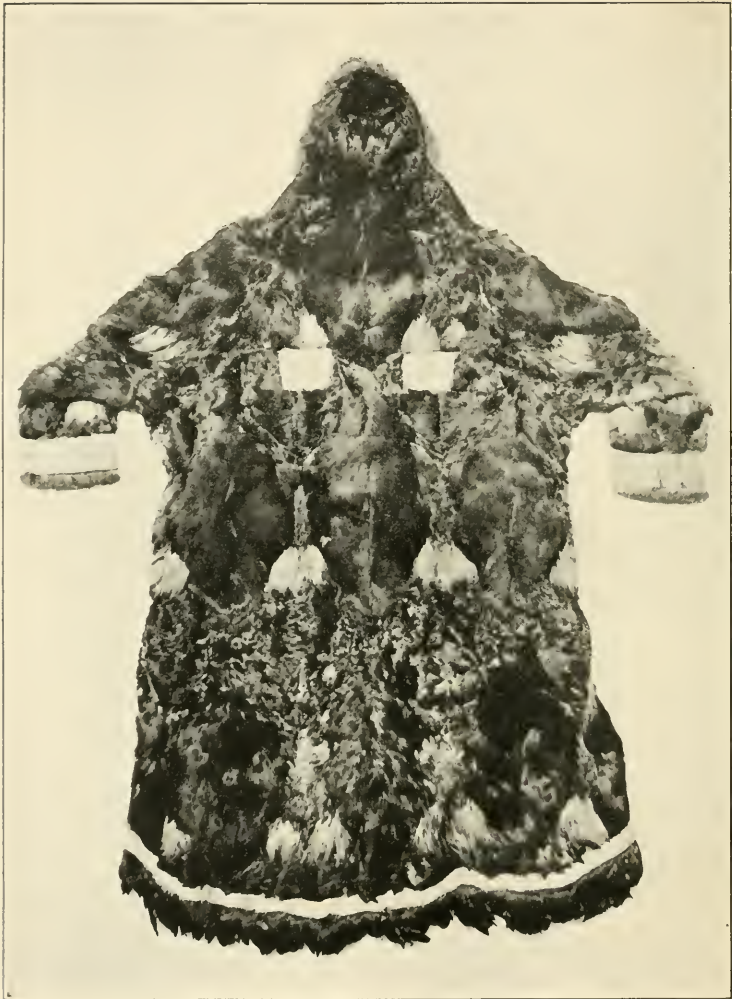
bunch of dry grass as a substitute. Among the Kuskwogamiut everybody wears grass socks.

For wet weather, waterproof garments are made of seal gut sewed together in long strips. This waterproof coat is another Eskimo invention that deserves careful attention. It is worn over the furs, it weighs nothing, it has a hood attached and will not leak. Waterproof boots and even coats are made also of salmon skin and this material is used very extensively for making waterproof bags. Sealskin with hair removed and well oiled is used for the best waterproof boots.

Men's and women's tunics are sometimes made of bird skins, the men's usually of the skins from the breasts of geese and the women's from the skins of the breasts of various ducks. These garments are often very beautiful.

A women's workbag contains always an assortment of sinews taken from the white whale, the walrus or the deer. These are shredded and twisted into thread and used for sewing. It also contains needles made of ivory, thimbles of tough seal skin, bodkins, needle-case of bone or ivory and the uluok or woman's knife.

Among the Kuskwogamiut the men wear labrets, one in either side of the lower lip. They are



A WOMAN'S COAT MADE OF DUCK SKINS

made of ivory or of stone. The men and women alike wear earrings of ivory and beads. Elaborate headgear is sometimes worn by the women when they dress up. An example is shown on plate facing page 220. It belonged to the same woman that owned the precious birdskin coat shown opposite this page. Both these articles would be reserved by the owner for the dances, festivals and other great occasions in which the Kuskwogamiut delight, which take an important place in their social life and make up a large part of each winter's programme.

FOOD

The Kuskwogamiut, like their InnuIt brethren everywhere, are children of the sea; they look to the sea for their living and not to the land. The mountains are the abode of spirits, hostile to mankind, lying in wait for the hunter. On the other hand, they enjoy the freedom of the sea, which is their favorite hunting ground. The whale has always been the principal quarry of these hunters of the deep. When the ice breaks loose in June and the open water of Bering Sea appears, the strong men of each village prepare themselves by a ceremony in the kozgee, an event that I would have done much to see. After the ceremony the hunters, still in ceremonial

trappings, bring the umiaks or big sea-going boats down to the shore ice, in accordance with a ritual, on the strict observance of which depends the success of the whale hunt.

Meanwhile solitary scouts in their kyaks have gone out to sea to look out for whales. As soon as a kyak returns reporting a whale, the waiting crews launch the umiaks and go in pursuit. The best and most successful harpoonist in each crew stands in the bow on the lookout; the rest of the crew, eight or ten men, work the paddles. It is a great honor to capture a whale and the most successful hunter occupies a proud position in his village. When the carcass of a whale has been towed ashore there is great rejoicing and much feasting. It is cut up and the meat placed in the caches for the winter's supply.

Next to the whale, the most important big game is the walrus, which is speared on the floe ice as it moves in detached masses southward through Bering Sea in the autumn.

The hair seal frequents the shallow waters of Kuskokwim Bay and is speared from the light kyaks. The chief food product derived from the seal is the oil which is stored in large bags made from the skins of the same animal. A supply of seal oil put up in this way is always



A MAN'S COAT MADE OF SKINS OF GEESE

on hand and furnishes one of the staple articles of diet. It is used in connection with dried fish and other mixed dishes.

Deer's meat, which used to be plentiful, is now scarce and highly prized. The tallow is a great delicacy and those who would indulge in the luxury must pay for it. It is an article of trade, passed from one place to another at good profit in skins or other commodities.

Geese and ducks breed in great numbers in the tundras, and in season they are hunted either with the bow and arrow or by means of the bolas, a kind of sling made of ivory balls attached to strings, all of which are united at the other end.

Fish, especially the king salmon, are taken in nets and in traps and dried or smoked. In winter tomcod are caught through holes in the ice with hook and line and with traps.

Besides these items furnishing the staple food supply, there are certain delicacies and prepared dishes, each appropriate to the season. The eggs of the geese are gathered and allowed to lie outdoors till they suit the taste, when they are eaten boiled. By another method the eggs are gathered when they are nearly hatched and then they are placed in the pot.

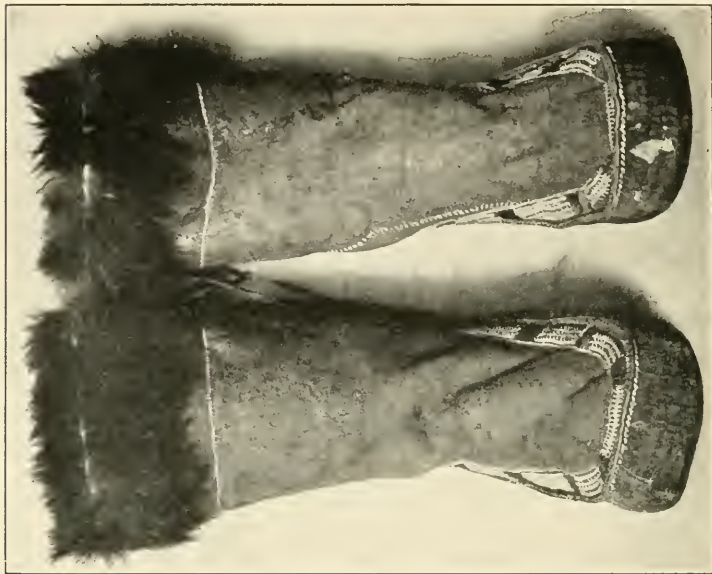
In the salmon fishing season the heads of the

salmon are placed in a pit till they become putrid and full of life under the sun's rays; they are eaten with great relish. I do not know whether more civilized epicures have devised anything so high as this dish.

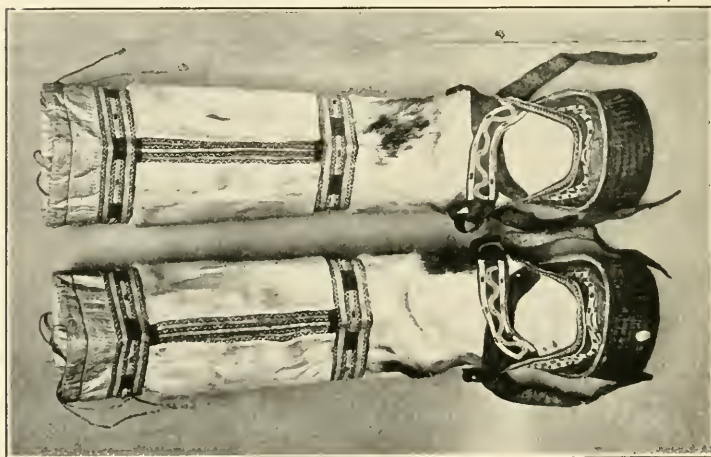
On the tundra there grows a berry about the size of a gooseberry and of a pale yellowish pink color. It is known as salmon berry. These berries are gathered in season and stored. They are used for making some very choice dishes. One of these is called kamamok and is compounded of cold storage fish roe, cold storage old seal oil and cold storage salmon berries mashed together.

Akutok is even more refined. The cold storage again furnishes the principal ingredients; this time salmon berries, seal oil and deer tallow. These are boiled together and afterwards cooled by mixing in fresh snow and whipping the whole mixture up into a kind of thick cream.

In their natural condition the food supply of the Kuskwogamiuts was abundant and, as will be seen from the above, existed in a good many varieties. The reduction of the food supply, together with the effects of disease, both due to foreign influence, must be held responsible for their diminished numbers and for their changed outlook on life.



A PAIR OF WOMAN'S BOOTS



A MAN'S DECORATED BOOTS

INDUSTRIES AND OCCUPATIONS

The principal occupations of the men are those that have to do with getting food. The principal occupations of the women are those that have to do with domestic life and the making of clothing and skin bags, weaving mats and baskets, making pottery and the preparation of food.

The men do all the hunting and fishing; they cut up the whale and store the skin and the blubber, they skin the walrus and cache the meat, they remove the skin of the seal, they boil the meat in large wooden troughs to extract the oil. In this latter process red hot stones are dropped into the trough containing water and seal meat, and continuously changed with long wooden tongs to keep the water boiling. As the oil rises to the surface it is skimmed off and stored in skins.

The men also gather driftwood and split it up for use as fuel in the kozgee. They make the wooden kantuks or dishes, the wooden spoons and ladles and the snowshoes; they are also the ivory workers and make all the utensils and ornaments in which this material, obtained from the walrus, is employed. The articles of domestic use made of ivory consist of bows for working drills, snow knives, needlecases, bag handles

and fasteners for bags and for clothing. The men make the lip ornaments of ivory and of stone. They make the little dolls of wood and ivory, and they are the artists who decorate with lively pictures of the chase and other scenes the ivory implements which are sometimes very tastefully wrought and are in fact objects of beauty. The men also paint pictures on the insides of the kantuks and they study and execute picture writing.

The women too have their artistic interests and cultivate the fine arts in several departments: beadwork, artistic leather work and embroidery on skin. The women make the charms of pieces of whale meat sewed up in skins that are worn by the hunters. The men make the amulets of stone in animal form that are worn by both sexes.

The heaviest work of the women is the dressing of skins for clothing. Seal, deer, squirrel and muskrat skins have to be dressed in the summer for making clothes in the winter. Seal skins have also to be prepared without the hair for boot soles and for waterproof boots. Salmon skins have also to be prepared for waterproof bags and even sometimes for waterproof garments. The women prepare also the seal gut

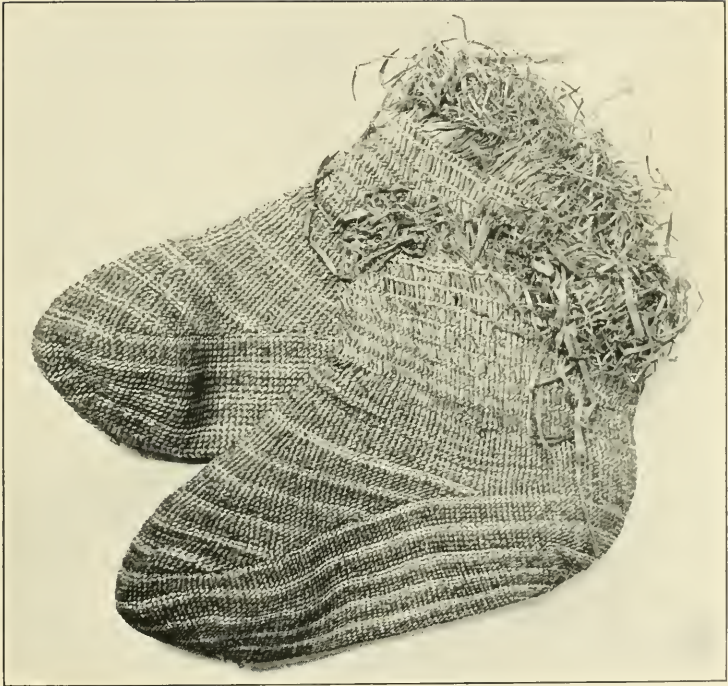
and cut it into long strips for making the fine waterproof coats. All this heavy work has to be done in the short summer. During the summer also the women make the pottery lamps and pots from clay obtained somewhere on the tundra or along the river bank. The clay is worked into a thick paste and shaped by pressure of the hands and a small paddle. Simple lines or dots are impressed on the pots for decoration sometimes, and at other times a symbolic device is incised on one side. These pots are of different sizes and are used for cooking. The lamps are saucer shaped and are usually decorated in the interior with concentric circles or else with characteristic symbolic devices. This pottery is only very lightly burned in an open fire made of driftwood. Its texture is coarse and the walls have to be made thick to gain sufficient strength.

During the winter the men make their sleds, their weapons and implements, prepare quantities of long line from walrus hide for the harpoons, for snowshoes and for dog harness; they make the wooden utensils in which their food is served and they keep alive all those industrial arts and æsthetic pursuits that pertain to the sphere of men's activities during the winter.

The kyak or skin canoe has a frame of wood

put together with lashings of walrus hide. The covering of walrus hide that encloses the frame, leaving only a hole in the middle for the man with the paddle, is removed in the autumn and stored during the winter. The repairing of these coverings, putting the frames in order and replacing the coverings are jobs for the first days of spring.

The big angiaks or open boats have their much heavier frames also made of wood, the separate parts being lashed together. They also have their coverings of walrus hide removed during the winter and replaced during the first days of spring. The dog sleds are about eight feet long, made of wood and shod with ivory. In the winter the women are busy making clothing, boots, waterproofs, baskets, mats and in decorating the various garments with embroidery and the application of bits of leather in different color. (They have a few simple dyes by which they get brown, yellow, black and red.) These colors, combined with the white dressed leather or with the furs in their varied natural colors, produce very handsome effects. Birdskin garments are often decorated by small strips of skin taken from the birds' feet and dyed yellow; these are attached in the form of tassels at the interstices of the skins where they are sewed together.



A PAIR OF GRASS SOCKS

The sewing is all done with ivory needles and with thread that the women make from the sinew of the white whale, the walrus and the deer.

In all this domestic economy the preparation of food plays a relatively small part, and though it falls to the share of the women, it does not add much to their labors, because they eat so much of their food in a raw state. Their various occupations keep the men and women busy during the long winters.

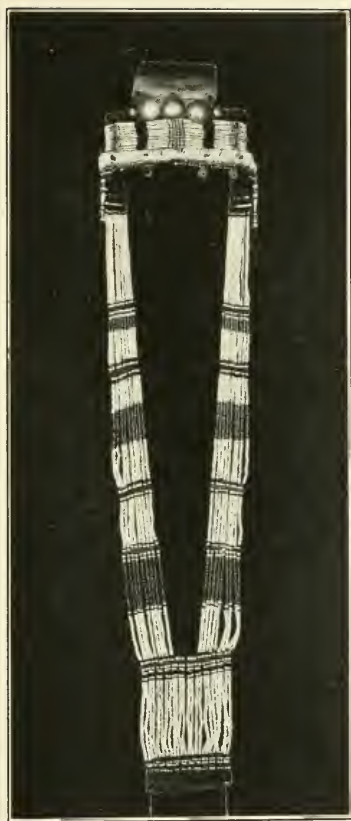
WEAPONS

The armory of the Kuskwogamiut is a comprehensive one. The largest weapons are heavy harpoons with long wooden shafts and fore-shafts of ivory, armed with an ivory head tipped with an infixed blade or point of flint. This head has an ingenious releasing device and is attached to a long line of walrus hide. When the head has been sunk in the skin of the whale, the shaft can be drawn back into the boat by means of its own line while the head is secured to the boat by a strong line that can be paid out or drawn in according to the circumstances.

Spears of different types are used for walrus and for seal. The lighter seal spears are thrown

by means of a throwing stick that is a part of every hunter's equipment. A light wooden spear armed with three prongs of ivory is used with the thrower for hunting birds, and a similar spear is sometimes used for fishing. In fowling the principal weapons are the bird bola of ivory balls and sinew strings, and the bow and arrows. In hunting deer or any large land animal, there is a big powerful wooden bow backed with braided sinew very ingeniously applied in strands. The arrows are equipped with ivory foreshafts and long sharp flint points. The same bow is used in fowling, but the arrows are either blunt bolts or ivory pointed. In fishing this bow is employed again with a different type of arrow, either a single long notched lance-like point or three slender notched prongs spreading in triangular fashion. For fishing through the ice there is a very cleverly made fishhook with a sinker of ivory and stone with some bits of color that act as a lure. The lines used with these hooks are made of whalebone because the water will not freeze to this material.

Snares and traps are used for ptarmigan, hare, muskrat and squirrel. The characteristic snare is an adaptation of the running noose and is made of whalebone.



A WOMAN'S HEADRESS

TOOLS

Among the tools that find employment among the Kuskwogamiut a special honor and distinction attaches to the great axe that is found in every kozgee. This axe is in itself an institution closely associated with the communal life of the kozgee. A certain sacredness, the full force of which I was not able to learn, attaches to this implement. It is called Kalthkapok (Big Raven) and it is made of a large walrus tusk chipped and ground to an edge at one end and lashed to a stout handle of wood by means of strong walrus hide thongs like an adze. Its use, which I was particular to inquire about, was solely to split up the wood used to make the fires in the kozgee. This wood must not be divided by any other implement. The Kalthkapok is always kept in its place in the kozgee.

Adzes of stone and especially of jade or nephrite are used in working wood and ivory. These vary in size from small ones with blades half an inch long to the longer ones with heavy blades six inches or more in length.

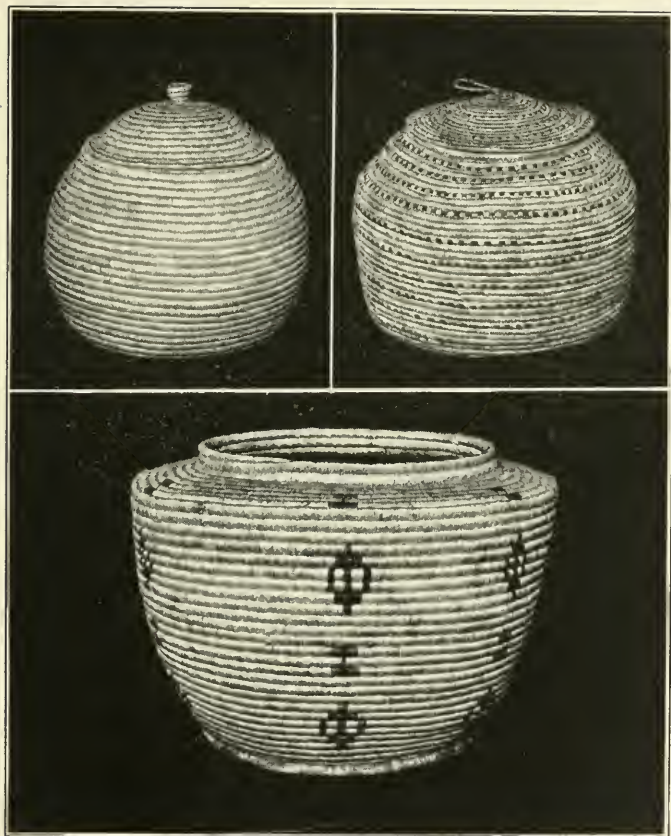
Hammers with heads of jade or other hard stone have handles of ivory, bone or antler well fitted and firmly lashed to the middle so that they are double bitted.

An implement consisting of a long pole with a contrivance at the end made up of a bone ring with a mesh of whalebone is used as an ice scoop to keep the fishing hole free from ice in winter.

The ice pick is a stout stick shod on one end with a strong ivory spike.

Each man has his workbox, an oblong or oval box averaging about a foot in length and sometimes very tastefully inlaid with ivory and with a lid that is kept in place by rawhide hinges and a lashing of rawhide that slips over an ivory catch in front. In this box will always be found the man's knife, formerly made of jade or flint but now almost invariably made of a bit of iron fastened to a handle of bone. The shape is always the same—a short curved blade on a long handle. In the box will also be found a bow drill in three parts, a scraper, a flint chipper, a few pieces of graphite for marking, a whetstone, a pair of wooden goggles to protect the eyes from the glare of the sun on the ice in the spring, a tobacco box and various miscellaneous articles.

Every woman has her workbag. In it will be found the uluok or woman's knife, a half moon shaped blade of iron or of jade inserted in an ivory or wooden handle. With this, the



A GROUP OF KUSKWOGAMIUT BASKETRY

bag will be sure to contain a bone or ivory needle case with ivory needles, and tastefully decorated by engraved lines—a present from husband, brother or lover—a small ivory box with lid for holding small articles of value, a wooden case for holding earrings, several pairs of earrings, a hank of sinew for making thread and a thimble or two in addition to some miscellaneous articles. The woman's bag is a small pocket with a long flap to roll up when the bag is closed. It has a thong, on the end of which is an ivory bar for a fastener. This bar is very beautifully made and decorated and, like the needle-case and the little ivory box, is a present from some man.

A woman usually has a sealskin bag like a shopping satchel with an ivory handle and also a fishskin bag tastefully made, for her spare clothes. The workbaskets made of grass with covers are very neat and well made and often have simple patterns in materials of a different color woven in for decoration.

THE HOUSE (INNA)

The houses of the Kuskwogamiut are built of logs over a shallow excavation. The timbers are cut to an even length and placed in a vertical position around the four sides. On these walls,

a pyramidal roof is supported and covered with turf on which moss and long grass may grow at will. In the center of the peak is a small opening for light and for ventilation. This hole may be closed when desired by a frame with a sheet of seal intestine which lets in light and keeps out the weather.

A covered passage or tunnel leads from the middle of one side and connects with a vestibule several yards from the house. To enter the house one enters the vestibule, passes through the tunnel and emerges from the inner end of the tunnel.

On each of the other three sides of the house is a raised bench about six feet wide against the wall. The rear platform, opposite the entrance, is a place of honor. All three platforms are covered with grass mats. The side platforms are divided into sections or compartments by means of woven grass screens suspended from the roof. In these compartments the different members of the family sleep and procure privacy. All the central area of the floor is the bare ground. When a wood fire is required it is kindled in the center of this area.

The clay lamps by which the house is lit at night are heavy saucers about eight inches in

diameter. They are half filled with seal oil with floating wicks of moss trimmed on the edge of the rim. The lamp is either placed on a wooden stand about eighteen inches high or else it hangs from the roof in a sling made of grass rope. Both these methods are in use.

The cooking pots when in use are placed directly in the fire.

THE KOZGEE

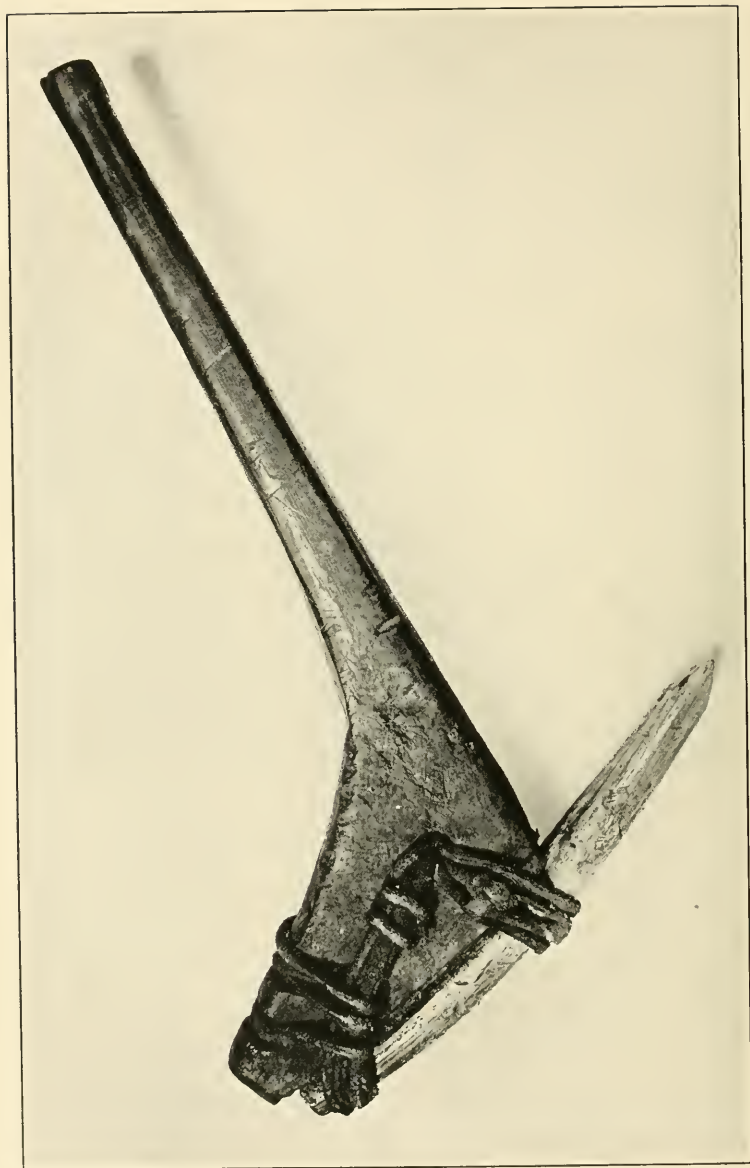
The kozgee is a magnified and glorified inna, but its architecture differs in some important respects from that of the house. It is sunken deep in the earth and is in fact a large dug-out lined and roofed with logs and entered through a tunnel with one end in the fire pit at the center and the other end connecting with a covered vestibule a little distance away in the landscape.

The floor of the kozgee is made of rough hewn logs. In the center these logs are movable over an area about eight feet square. This space is occupied by a fire pit. When the fire pit is not in use, the logs are replaced. Halfway between the floor and the front wall there is an oval man-hole in the floor connecting with the tunnel. When you enter the kozgee you pass through the outer entrance which lets you down by steps

to the floor of the vestibule. You then enter the tunnel in a stooping posture and when you arrive at the hole in the floor you stand upright. Your head and shoulders are then in the interior and the rest of you is below. You then place your hands on the floor and draw yourself up. To go out you lower yourself through the hole.

The size of the kozgee varies; the largest that I saw was the one in a deserted village at the mouth of the river. It measured forty feet square, but some, I believe, are much larger and again some are smaller. I was told of a ruined village on the bay with a kozgee more than twice as large as the largest I saw. Ogovik had a good sized one and that at Ohagamiut was also large. I do not know if there is at this time any village with more than one kozgee, but we were told by the old people at Mamtrelich and Ohagamiut that in old times the populous villages had many kozgees.

Everything in the kozgee is carefully arranged according to rule. About the four sides against the wall is a bench three feet high made of rough hewn planks supported on posts. At a height of about four feet above this a broad shelf is likewise carried round the four sides. In some cases there is a third and narrower shelf still



KALTHKAPOK (BIG RAVEN) THE GREAT AXE USED IN THE KOZGEE

higher up. When the kozgee is full of people to witness some spectacle or to celebrate a festival these shelves are all lined with people closely packed together, the boys occupying the upper shelf all the way round.

It would take a volume to describe all the uses of the kozgee. In the first place, it belongs to the men of the village. The bachelors all live there and each man has his assigned place. It is also the place where strangers are entertained if they are men. It is, besides, the workshop, clubhouse, playhouse, lodge and bath of the village. No cooking is ever done in the kozgee. When meal time comes each man has his food brought to him by one of his female relations (mother or sister or wife), who passes it up through the floor in kantuks. She must not enter the kozgee. Afterwards the women return, one by one, and the empty dishes are passed out to them. Only when the festivals and dances are held do the women enter the kozgee. Then they are present both as spectators and as performers.

To prepare the sweat bath the logs are removed from the fire pit and the big axe is used to split up a pile of wood into thin fagots. The men only indulge in the frivolity of the sweat bath.

They are very fond of it. I believe that in all probability the women consider it a waste of good firewood. The women never acquired club houses of their own; they are, however, mistresses in their own homes and they are content to stay there.

CLEANLINESS

The problem of keeping clean under the conditions of life that obtain in such a community as a Kuskwogamiut village is a serious one. It cannot be said that the people are clean in their persons or in their houses. Indeed, according to some standards, they are dirty and they find it impossible to rid themselves of vermin. I doubt whether this is due to a disposition to be dirty so much as to necessity. Father Barnum, the gifted and courageous author of the Inniut grammar, who lived in a village about a hundred miles from the Kuskokwim on the coast, gives an illuminating account of his own experiences in a letter printed for private circulation in 1893. The passage to which I have reference is a classic that deserves to be better known, and I therefore reproduce it here by permission.

“In Alaska, the louse and the missionary are ‘one and inseparable,’ of course this intimacy is entirely due to the obstinate

infatuation of the louse. In the beginning, the missionary rejects the overtures of the insinuating insect, and seeks to avoid companionship, but his efforts are in vain, the louse will not be repulsed; the intimacy is inevitable. Humiliating as the confession may sound, it is sad but true. We are all lousy, and we are lousy all the time! When I landed at St. Michael's, we camped on the bluff for two weeks, while the steamer discharged cargo. Soon I noticed a little rash which broke out on my neck. I paid no attention to it, expecting that it would soon pass away. Next I became convinced that I had caught the itch; I knew nothing about lice then, and so I felt badly over 'my itch,' but determined not to say anything about it to Fr. Tosi, until after the steamer had left the port, for I did not want to be sent back. Keeping quiet when with the fathers was a trial too hard to describe. One day, however, I had to rub a speck on the shoulder of my coat, and a father remarked 'So you have gotten some already,' and added, to my great amazement, 'that his were worrying him.' That settled it, I could remain in Alaska, and could scratch freely, morning,

noon and night. It is impossible to keep free from these pests. New comers try it but soon give it up. Every time you enter a casine you get a fresh supply. Every native who comes near you leaves you a fresh contribution. The chapel is full of them after every service. When you visit the sick or come in contact with the people in any way, you are bound to catch them, and they abound the whole year. We simply have to get used to them and be satisfied with keeping the number down by constant vigilance. 'I have just killed fifty,' is a common remark. Let me suggest here, in parentheses,—Do not bring gray underwear up here; crede experto, there is not contrast enough. You may say, 'this is perfectly horrid, why don't the fathers wash?' It is horrid, I know, and promptly admit, but still these are facts Alaskan; now about washing, there's the rub! Their apparel, which consists of a fur 'parki' and a pair of long boots, is never subjected to the ordeal of the wringer and mangle."

I am sure that this Homeric passage will rouse responsive feelings in every true Alaskan and make him homesick for the north.

CUSTOMS AND BELIEFS

Each family occupies its own separate house. Though a man may have more than one wife, the practice of polygamy is not encouraged. Each village manages its own affairs. As among the Innuits everywhere, each village has its head man, who takes the lead in all matters by general consent. The medicine man, called UNGULKUK, does not acquire any great authority, though he is respected on account of his supposed power over spirits. There are many evil spirits abroad everywhere ready to make mischief, and they must be circumvented, hence the necessity of observing many customs that seem incomprehensible to the stranger. There is a devil called TUNOOK and a good spirit called UNOELRAH. There is an abode of the dead whence the spirits may be called to take part with the living according to a well regulated process. Feasts are given in honor of the dead at intervals of five year periods at which they are believed to be actually present in the *kozgee*.

Story telling, play acting and singing songs made for the occasion are among the diversions. Crime is very rare and acts of kindness and devotion are common.

The raven among the animals that figure in the myths appears to have been a great hero.

The Mammoth, the bones of which are sometimes found buried in the tundra, formerly lived in the sea, but he was driven out by a monster called AGLU, the whale's partner, much more powerful than the whale. He has long teeth and his jaws work horizontally. When Keelugbuk (the Mammoth) was driven out of the sea by Aglu he was so heavy that he sank in the land and went swimming through the earth as he had formerly done in the sea, but being unable to get enough food underground, he eventually died and his kind became extinct.

They tell stories too of a great sea serpent, though there are no snakes in Alaska, and they have old ivories with pictures of all these animals. I procured, near the mouth of the Yukon in 1905, from an old man, an ivory bow for a drill. It was yellow with age and worn from use in the hand. The owner said that he counted eleven generations that it had been in his family. It had not been made by forebears of his, but was already old when it came into the possession of a direct ancestor eleven generations back. On it are engraved pictures that he identified as those of Aglu, Keelugbuk, Tunook and a big deer now extinct.

There are also pictures of men and walrus and

whales and deer and trees and villages on this old relic.

STORY TELLING

The men are the story tellers and the custodians of legends. In this they manifest a great interest and much skill. The stories are learned by the young men from their elders, carefully memorized and practiced with much industry and attention to detail. The same story is always told in the same words, with the same intonations and the same gestures. If a story teller makes a mistake some one among his hearers is sure to correct him. Some of the stories are very long and occupy hours in the telling. Many of them refer to the doings of mythical beings, animals and men, and these stories may be said to constitute a body of epical literature that is rich in expedient and striking in form.* A good story teller always finds an audience and though the story be old they never tire of hearing it. A collection of these tales would fill many volumes.

There is a long cycle of myths about the Raven as the creator and teacher that forms an epic

* According to Nelson the same body of myths are the common property of all the Eskimo of the Coast up as far as Cape Prince of Wales. Bureau of American Ethnology, ANNUAL REPORT.

of extraordinary interest. A young man at the Bethel Mission volunteered to relate the story of the Raven for me. He told a section each day, but he had not finished when we left.

The part played by the Raven in the mythology and in the social life of the Kuskwogamiut finds its parallel among the Tlingit of the Southeast Coast, a thousand miles away as the crow flies. Yehl, the Raven among the latter people, is also a culture hero, and each clan in a village usually has one house that takes his name; Yehlhit or Raven House. There is no such social organization among any of the Eskimo as is found among the Tlingit, but a ruined village on the lower Kuskokwim had the name Kalthka (Raven) and its vanished inhabitants were known as Kalthkamiut (Raven People). I have elsewhere mentioned that the sacred axe of the kozgee is called Kalthkapok: Big Raven.

There is another class of stories that is the property of the women. They are simple animal stories that they tell the children.

DRIFTWOOD

Wood is used by the Kuskwogamiut for the construction of their houses, frames of their kyaks and angiaks, dog sleds, harpoon shafts,

bows and arrows, kantuks or wooden dishes, for the fires of the kozgee and for a variety of minor purposes. With the exception of the few villages about Kolmakoff they get their supply of wood from the sea. Trees torn from the river bank in the interior by the spring floods are carried out to sea and after being afloat perhaps for months are brought in and deposited on the beaches by the tides. By this time the logs are well seasoned and ready to be worked.

TRADE

A certain amount of trade is carried on between the Eskimo communities and also between the Eskimo and the Tinneh. The Tinneh tribes make the best kantuks and these, together with birchbark vessels, are traded to the Eskimo. Deer skins and deer tallow are also articles of barter. Wolverine skins required for the trimming of the women's fur garments come to the Kuskwogamiut from long distances in trade.

The gatherings which take place in the winter at the Eskimo villages when distant villages are invited to take part have the effect of stimulating trade relations.

APPENDIX C

THE LANGUAGE OF THE KUSKWOGAMIUT

The language of the Kuskwogamiut does not differ in any material respect from the Innuït in other parts of Alaska. The differences are slight and consist in pronunciation and to an even less extent in vocabulary. The grammatical structure is uniform.

The study of this language has been well done by Father Francis Barnum.* It is, therefore, not worth my while to discuss it. From the material that I gathered I simply give two short vocabularies that may serve for comparison.

SIKMIUT NUMERALS

- 1 Ataujuk
- 2 Malruk
- 3 Pingayun
- 4 Stamun
- 5 Taliman
- 6 Agovinlugu
- 7 Malrunlugu
- 8 Pingayunlugu

* INNUIT LANGUAGE by Francis Barnum, S.J.

- 9 Kulunritaran—one from ten
- 10 Kulun
- 11 Kula ataujimuk chiplugu—ten and one
- 12 Kula malruk chiplugu—ten and two
- 13 Kula pingayun chiplugu—ten and three
- 14 Kula stamun chiplugu—ten and four
- 15 Agimiuk
- 16 Agimin ataujimuk chiplugu—fifteen and one
- 17 Agimin malruk chiplugu—fifteen and two
- 18 Agimin pingayunuk chiplugu—fifteen and three
- 19 Uinunritaran—one from twenty
- 20 Uinuk—a man
- 21 Uinuk ataujimuk chiplugu—twenty and one
- 22 Uinuk malruk chiplugu—twenty and two
- 23 Uinuk pingayun chiplugu—twenty and three
- 24 Uinuk stamun chiplugu—twenty and four
- 25 Uinuk taliman chiplugu—twenty and five
- 30 Uinuk kulunuk chiplugu—twenty and ten
- 31 Uinuk kulunuk chiplugu ataujimuk chiplugu
—twenty and ten and one
- 40 Malruk epeat—two men
- 50 Malruk epeat kulunuk chiplugu—two twenties and ten
- 100 Taliman epeat—five men
- 500 Uinun talimanuk epeat chiplugu—twenty times twenty five

SIKMIUT VOCABULARY

- Kingukleoka, brother
Neagaka, sister
Artuga, father
Anuga, mother
Nulichga, married man
Uinga, bachelor
Araiawik, chief
Eidpaka, partner
Umaluchdut, plenty
Pedeiduk, all gone, it is finished
Muk, water
Mukeiawik, bath-house (literally watering-place)
Mukeiunga, to wash (literally to water)
Kofchinik, how much
Anogwa, wind
Napat, woods
Tonot, picture
Patiktuk, tobacco
Puluchtuduk, pipe
Uluok, woman's knife
Plajinok, string
Aihruk, cat's cradle
Kasachtawok, larger log house
Amireek, fish skin boots
Shakalok, sugar
Pachguluk, bark basket

Kaluviak, wooden dish made in two parts
Ugaiuk, wooden dish dug out
Tultuk, flat bark dish
Chowot, blueberries
Kokiuk, a kind of salmon like the dog salmon
Ikaialuk, dog salmon
Ishalok, porcupine
Koftsitsok, marten
Imogamukdok, mink
Tuntu, caribou
Tuntuok, moose
Kaymughta, dog
Paloktok, beaver
Iligawok, muskrat
Chuginiok, otter
Kongainok, squirrel
Kubwiok, fox
Treikunyok, wolverine
Kugilunuk, wolf
Kaymuch kaiuk, little dog
Olumuk, bow
Unadit, hand
Tali, arm
Itagat, foot
Irow, leg
Usuk, head
Ung, eye

Kungok, nose
Chin, ear
Kanuk, mouth
Kudikt, teeth
Auok, blood
Nutaak, white fish
Taiukbuk, kingsalmon
Ulik, blanket
Na, house
Kozgee, dance house
Ilon, canoe
Ingilok, bed
Platikok, tent
Igummok, sled
Kurok, cache
Irarluk, moon
Chishluk, calendar
Aguchda, sun
Hlilabuk, rain
Tangaluk, snow-shoe
Kubiukiunok, moosehide thong
Atkuk, the native coat
Kaimuksok, woman's boots
Malachiok, cap
Airoktat, glove
Aleman, mitten
Plumon, skin scraper

Snok, river
Ingarak, mountain
Cosit, white man
Oginut, woman
Nikalingut, baby
Stoluk, bench
Unamuk, today
Ayuchtoa, I go
Ayalchouunga, I went
Ayuchchukoa, I will go
Ayuchtudn, you go
Ayalchoudn, you went
Ayuchchukoudn, you will go
Ayuchtuk, he goes
Ayalchouk, he went
Ayuchchugouk, he will go
Ayuchtut, they go
Ayalchout, they went
Ayuchchugout, they will go
Ayagadachtoa, I am going to go away
Ayuchtoa Mamtrelich mun, I am going to Mam-
trelich
Ayalchouunga Mamtrelich mun, I went to Mam-
trelich
Ayuchchukoa Mamtrelich mun, I will go to Mam-
trelich
Ayagachtoa, I am going immediately

Ayachtognarchtoa, I go quickly
Ayangsatoa, I go slowly
Ayagfalirchtoa, I go far
Ajuchtuk, good
Ajuchtukiouk, a good man
Chamai, form of greeting
Toingunaiduk, good bye
Tadugaluk, black bear
Tagouka, brown bear
Nutchtoa, I shoot
Nutchtudn, you shoot
Nutchtok, he shoots

MAMTRELICHMIUT VOCABULARY

Mamtrellichmiut, the people of Mamtrellich
Achluk, whale
Tuntuok, caribou
Tuntu, reindeer
Kaymuchta, dog
Kantuk, large wooden dish
Kanchugach, small wooden dish
Uiluk, small wooden spoon
Ipun, large wooden spoon
Agumuk, basket
Kano huk, lamp (pottery)
Kanoadjoch, small lamp
Agumadjoch, little basket

Uiludjoch, small little spoon
Mikchoyok, small one
Mikuk, small
Asituk, bad
Ankeituk, 'tis a pity
Asitkapichtuk, very bad
Chuknuk asituk, very bad
Kofchijoch, marten
Imogamenchduk, mink
Tagouka, brown bear
Tannigagale, black bear
Tunguilara, black
Unuk, night
Ugunuk, day
Aguchta, sun
Igaaluk, moon
Tannaguk, dark
Tannagechtuk, daylight
Unnuok, dawn
Agunuk, woman
Agunuk kogoluk, old woman
Najanaluk, little girl
Tannaganaluk, little boy
Unadit, hand
Itgut, foot
Talik, arm
Eruk, leg

Kanguk, nose
Kanuk, mouth
Nunyut, hair
Kamiakuk, head
Uiakut, neck
Awk, blood
Whee, I
Ichlpik, you
Ihlhee, he
Ihleid, they
Eidpaka, partner
Eidpanee, next one
Chikeringuh, give me
Nitka, my house
Nin, your house
Inni, his house
Aginuk, skin boat
Uk, man (singular)
In, men (dual)
Iut, men (plural)
Akleitik, earrings
Ingavit, mountains
Taghoyammaghrotik, finger mask
Urok, dance
Ashuchtuk, good
Anguk, big
Angavichtuk, too big

Kaningsuchta, poet or story teller
Ungulkuk, medicine man
Anuganuk, evil spirits
Tunook, devil
Unoelrah, a good spirit
Ayuchtoa, I go
Ayuchtudn, you go
Ayuchtuk, he goes
Kaylun yakschichta Ogovik, how far is it to
Ogovik
Ugunut malruk, it is two days
Ugunut pingayun, it is three days
Ugunrut amlarut, it is many days
Natmun ayuchchit, where are you going

INTERPRETATION OF PICTURES ON AN OLD
DRILL BOW

Obverse

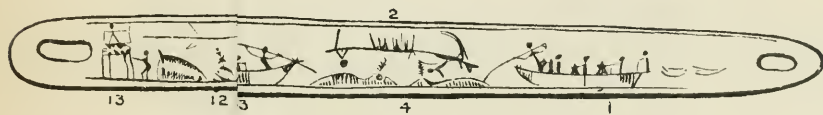
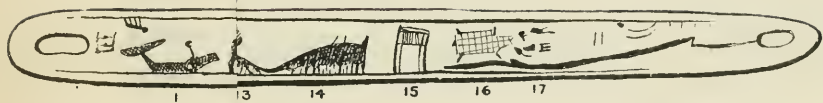
1. Aglu, the whale's partner, living in the sea.
2. Keelugpuk, the mammoth.
3. A great deer, the partner of the reindeer living in the sea and afterwards on the land; now extinct.
4. Amakum, the partner of the wolf living on the land, now extinct.
5. Tunook, the devil living on the land.

6. An extinct monster living on the land with dark skin but no hair.
7. Tuntu, the deer.
8. Napoktuk, growing trees.
9. The hunter.
10. ?
11. Two men making angiak.
- 12, 13, 14. A village with an Eskimo on top of house.
15. A cache.
16. A deer hide stretched out on the ground.
17. Pieces of flesh.

Reverse

- 1, 2, 3, 4. Whale hunt with three angiaiks and two whales.
5. Walrus hunt.
6. Boat containing men with their amulets having a good time after the walrus hunt.
- 7, 8, 9. Walrus hunt with two angiaiks and two walrus.
10. Whale.
11. Whale hunting boat.
12. Village.
13. Cache.

Aglu is a sea monster bigger than the whale.





AN ANCIENT INSCRIPTION IN PICTURE-WRITING

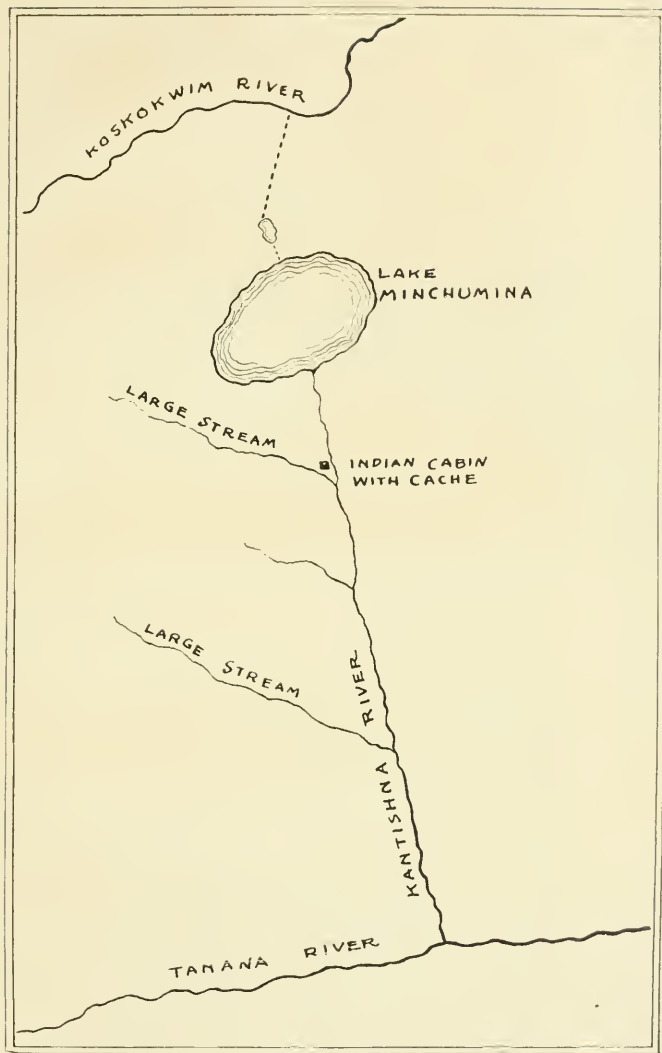
He has long sharp teeth and jaws that work horizontally.

Keelugpuk, the Mammoth, once lived in the sea, but was driven out by the Aglu. He was too heavy to walk on the surface of the ground, but he swam through the land just as he had been accustomed to do in the sea. Keelugpuk is now extinct, but long ago the Eskimo used to kill and eat him when he rose to the surface of the earth.

A great deer much larger than the caribou or moose which formerly lived in Alaska and was hunted by the ancestors of the Eskimo. This animal, "the partner of the reindeer," first lived in the sea, but was driven out, together with Keelugpuk, by Aglu, and for a long time he continued to live on the land.

Amakum is described as a huge monster that formerly lived on the tundra and frequented pools.

Tunook is the devil. He is sometimes seen by hunters on the lonely tundra.



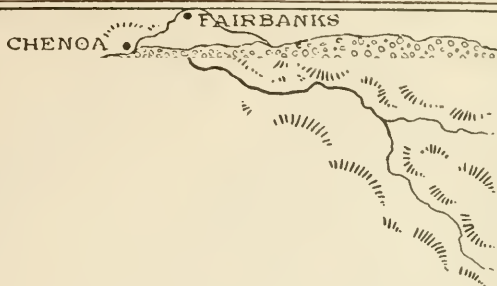
SKETCH MAP MADE UNDER THE DIRECTION OF CHIEF HENRY
AT TANANA FOR THE AUTHOR IN 1905



THE
LIBRARY OF
THE
MUSEUM OF
COMPARATIVE ZOOLOGY
AND ANATOMY
HARVARD UNIVERSITY
CAMBRIDGE, MASS.

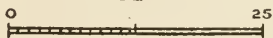


MAP OF ALASKA SHOWING THE ROUTE



MAP OF
CENTRAL ALASKA

SCALE
STATUTE MILES



INCHUMINA



MAP OF
CENTRAL ALASKA
 SCALE
 STATUTE MILES
 25

MAP OF CENTRAL ALASKA SHOWING THE EASTERN AND THE BELGIAN MOUNTAINS (SEE WILKINSON)

UNIVERSITY OF CALIFORNIA LIBRARY

Los Angeles

This book is DUE on the last date stamped below.

REC'D LD-URL

MAY 15 1973

MAY 8 1973

MAY 8 1973

REC'D LD-URL

MAY 29 1973

MAY 23 1973

REC'D LD-URL

APR 06 1987
SEP 20 1990

REC'D LD-URL

JUL 5 1968

JUL 15 1968

REC'D LD-URL

AUG 30 1968

SEP 13 1969

QL DEC 6 1969

QL MAR 14 1969

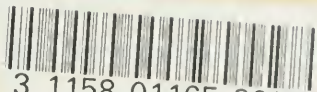
REC'D LD-URL

MAY 13 1969

REC'D LD-URL

JUL 20 1970

JUL 13 1970



3 1158 01165 8605

F
909
G655i

UC SOUTHERN REGIONAL LIBRARY FACILITY



AA 001 160 641 5

